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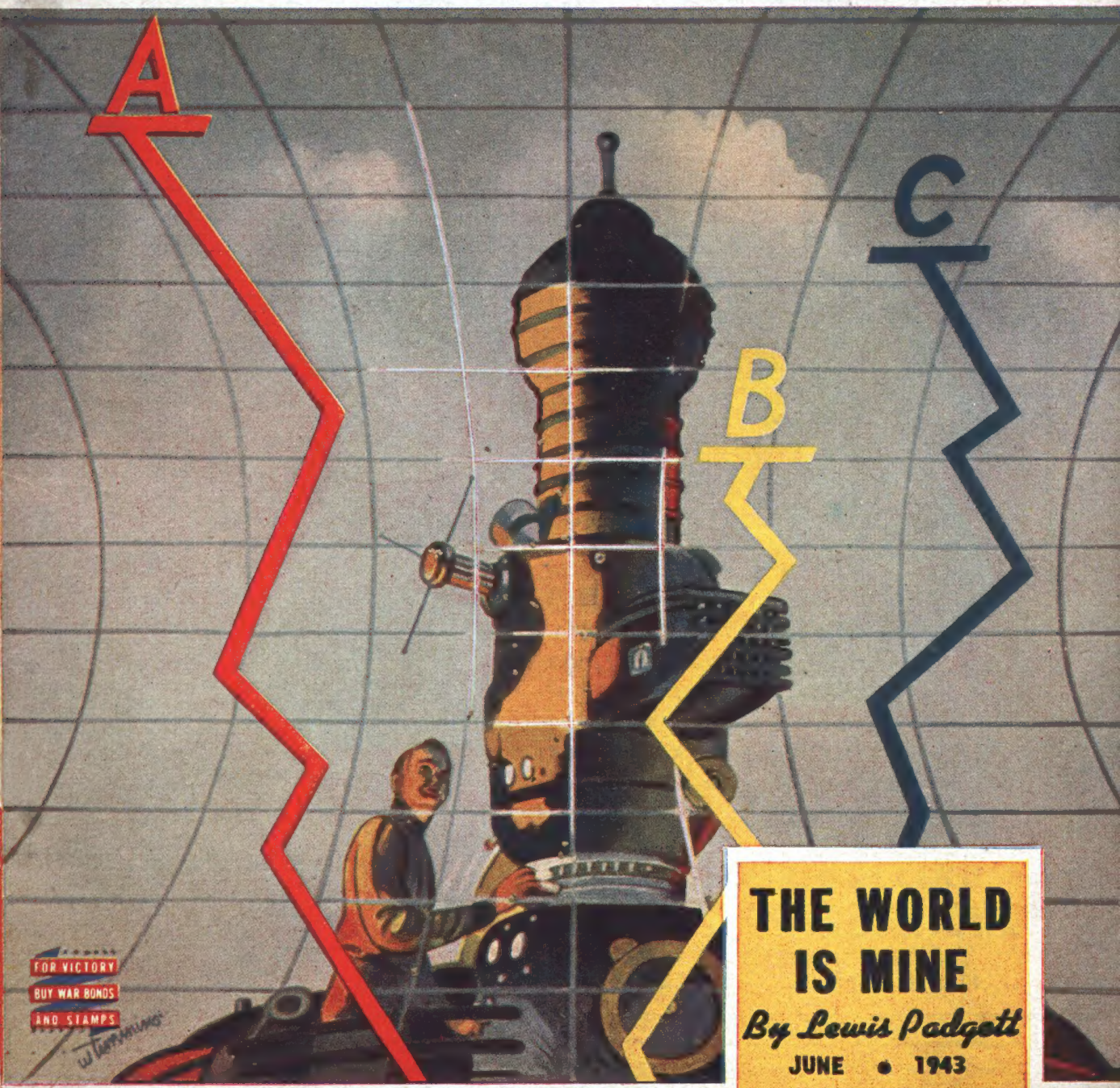


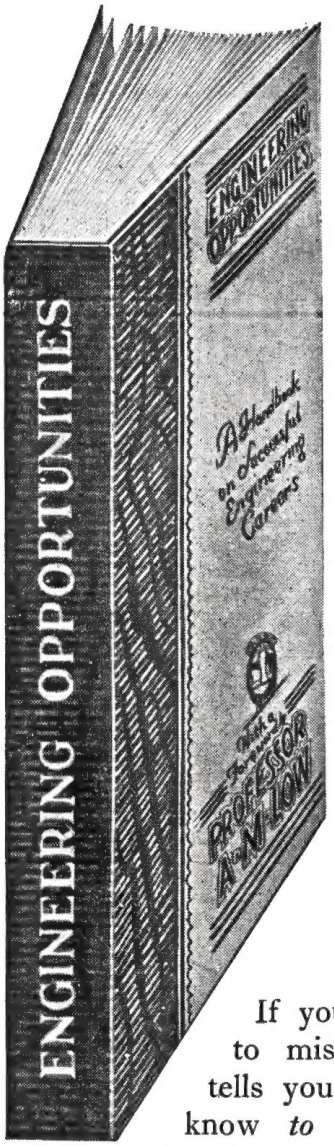
THE WORLD IS MINE

By Lewis Padgett

JUNE • 1943

A STREET AND SMITH PUBLICATION

AMBITIOUS ENGINEERS



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JUNE 1943

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All stories in this magazine are fiction. No actual persons are designated either by name or character. Any similarity is coincidental.

THE WORLD IS MINE

By LEWIS PADGETT

Gallegher, the mad—or at least cockeyed—scientist, got himself into real trouble that time. Corpses—several of them, but all, unpleasantly, his own—kept haunting him. And the Martians he'd accidentally brought up out of Time kept insisting, somewhat plaintively, the world was theirs.

"LET me in!" shrilled the rabbity little creature outside the window. "Let me in! The world is mine!"

Gallegher automatically rolled off his couch, reeling under the not unexpected gravity-pull of a colossal hangover, and gazed about in a bleary fashion. His laboratory, gloomy in gray morning light, swam into visibility around him. Two dynamos, decorated with tinsel, seemed to stare at him as though resentful of their festive garments. Why tinsel? Probably the result of those Tom-and-Jerries, Gallegher thought wanly. He must have decided that last night was Christmas Eve.

Brooding on the thought, he was recalled to himself by a repetition of the squeaky cry that had awakened him. Gallegher turned carefully, holding his head between steadying palms. A face, small, furry and fantastic, was regarding him steadfastly through the plexoglas of the nearest windows.

It was not the sort of face to see after a drinking bout. The ears were huge, round and furry, the eyes enormous, and a pink button of a nose shivered and twitched. Again the creature cried.

"Let me in! I gotta conquer the world!"

"What now?" Gallegher said under his breath, as he went to the door and opened it. The back yard was empty save for three remarkable animals that now stood in a row facing him, their furry white bodies fat and pushy as pillows. Three pink noses twitched. Three pairs of golden eyes watched Gallegher steadily. Three pairs of dumpy legs moved in unison as the creatures scuttled over the threshold, nearly upsetting Gallegher as they rushed past.

That was that. Gallegher went hurriedly to his liquor organ, mixed a quick one, and siphoned it down. He felt a little better—not much. The three guests were sitting or standing in a row, as usual, watching him unblinkingly.

Gallegher sat down on the couch. "Who are you?" he demanded.

"We're Lybblas," said the foremost.

"Ah." Gallegher thought for a moment. "What are Lybblas?"

"Us," the Lybblas said.

It seemed to be a deadlock, broken when a shapeless bundle of blankets in one corner stirred and exposed a nut-brown, withered face, seamed with far too many wrinkles. A man emerged, thin, ancient and bright-eyed. "Well, stupid," he said, "so you let 'em in, eh?"

Gallegher thought back. The old fellow, of course, was his grandfather, in Manhattan for a visit from his Maine farm. Last night— Hm-m-m. What had happened last night? Dimly he recalled Grandpa boasting about his capacity for liquor, and the inevitable result: a contest. Grandpa had won. But what else had happened?

He inquired.

"Don't you know?" Grandpa said.

"I never know," Gallegher told him wearily. "That's how I invent things. I get tight and work 'em out. Never know how, exactly. I invent by ear."

"I know," Grandpa nodded. "That's just what you did. See that?" He pointed to a corner, where stood a tall, enigmatic machine Gallegher did not recognize. It buzzed quietly to itself.

"Oh? What is it?"

"You *made it*. Yourself. Last night."

"I did, huh? Why?"

"How should I know?" Grandpa scowled. "You started fiddling with gadgets and set the thing up. Then you said it was a time machine. Then you turned it on. Focused it into the back yard, for safety's sake. We went out to watch, and those three little guys popped out of empty air. We came back—in a hurry, I recall. Where's a drink?"

The Lybblas began to dance up and down impatiently. "It was cold out there last night," one of them said reproachfully. "You should have let us in. The world is ours."

Gallegher's long, horselike face grew longer. "So. Well, if I built a time machine —though I don't remember a thing about it—you must have come out of some different time. Right?"

"Sure," one of the Lybblas agreed. "Five hundred years or so."

"You're not—human? I mean—we're not going to evolve into you?"

"No," said the fattest Lybbla complacently, "it would take thousands of years for you to evolve into the dominant species. We're from Mars."

"Mars—the future. Oh. You—talk English."

"There are Earth people on Mars in our day. Why not? We read English, talk the lingo, know everything."

Gallegher muttered under his breath. "And you're the dominant species on Mars?"

"Well, not exactly," a Lybbla hesitated. "Not *all* Mars."

"Not even half of Mars," said another.

"Just Koordy Valley," the third announced. "But Koordy Valley is the center of the Universe. Very highly civilized. We have books. About Earth and so on. We're going to conquer Earth, by the way."

"Are you?" Gallegher said blankly.

"Yes. We couldn't in our own time, you know, because Earth people wouldn't let us, but now it'll be easy. You'll all be our slaves," the Lybbla said happily. He was about eleven inches tall.

"You got any weapons?" Grandpa asked.

"We don't need 'em. We're clever. We know everything. Our memories are capacious as anything. We can build disintegrator guns, heat rays, spaceships—"

"No, we can't," another Lybbla countered. "We haven't any fingers." That was true. They had furry mittens, fairly useless, Gallegher thought.

"Well," said the first Lybbla, "we'll get Earth people to build us some weapons."

Grandpa downed a shot of whiskey and shuddered. "Do these things happen all the time around here?" he wanted to know. "I'd heard you were a big-shot scientist, but I figured scientists made atom-smashers and stuff like that. What good's a time machine?"

"It brought us," a Lybbla said. "Oh, happy day for Earth."

"That," Gallegher told him, "is a matter of opinion. Before you get around to sending an ultimatum to Washington, would you care for a spot of refreshment? A saucer of milk or something?"

"We're not *animals!*" the fattest Lybbla said. "We drink out of cups, we do."

Gallegher brought three cups, heated some milk, and poured. After a brief hesitation, he put the cups on the floor. The tables were all far too high for the small creatures. The Lybblas, piping, "Thank you," politely, seized the cups between their hind feet and began to lap up the milk with long pink tongues.

"Good," one said.

"Don't talk with your mouth full," cautioned the fattest Lybbla, who seemed to be the leader.

Gallegher relaxed on the couch and looked at Grandpa. "This time machine business—" he said. "I can't remember a thing about it. We'll have to send the Lybblas back home. It'll take me a while to work out the method. Sometimes I think I drink too much."

"Perish the thought," Grandpa said. "When I was your age, I didn't need a time machine to materialize little fellows a foot high. Corn likker did it," he added, smacking withered lips. "You work too hard, that's what it is."

"Well—" Gallegher said helplessly. "I can't help it. What was my idea in building the thing, anyhow?"

"Dunno. You kept talking about killing your own grandfather or something. Or foretelling the future. I couldn't make head nor tail of it myself."

"Wait a minute. I remember—vaguely. The old time-traveling paradox. Killing your own grandfather—"

"I picked up an ax handle when you started in on that," Grandpa said. "Not quite ready to cash in my chips yet, young

fellow." He cackled. "I can remember the gasoline age—but I'm still pretty spry."

"What happened then?"

"The little guys came through the machine or whatever it was. You said you hadn't adjusted it right, so you fixed it."

"I wonder what I had in mind," Gallegher pondered.

The Lybblas had finished their milk. "We're through," said the fat one. "Now we'll conquer the world. Where'll we begin?"

Gallegher shrugged. "I fear I can't advise you, gentlemen. I've never had the inclination myself. Wouldn't have the faintest idea how to go about it."

"First we destroy the big cities," said the smallest Lybbla excitedly, "then we capture pretty girls and hold them for ransom or something. Then everybody's scared and we win."

"How do you figure that out?" Gallegher asked.

"It's in the books. That's how it's always done. We know. We'll be tyrants and beat everybody. I want some more milk, please."

"So do I," said two other piping little voices.

Grinning, Gallegher served. "You don't seem much surprised by finding yourselves here."

"That's in the books, too." *Lap-lap.*

"You mean—this?" Gallegher's eyebrows went up.

"Oh, no. But all about time-traveling. All the novels in our era are about science and things. We read lots. There isn't much else to do in the Valley," the Lybbla ended, a bit sadly.

"Is that all you read?"

"No, we read everything. Technical books on science as well as novels. How disintegrators are made and so on. We'll tell you how to make weapons for us."

"Thanks. That sort of literature is open to the public?"

"Sure. Why not?"

"I should think it would be dangerous."

"So should I," the fat Lybbla said thoughtfully, "but it isn't, somehow."

Gallegher pondered. "Could you tell me how to make a heat ray, for example?"

"Yes," was the excited reply, "and then we'd destroy the big cities and capture—"

"I know. Pretty girls and hold them for ransom. Why?"

"We know what's what," a Lybbla said shrewdly. "We read books, we do." He spilled his cup, looked at the puddle of milk, and let his ears drop disconsolately.

The other two Lybblas hastily patted him on the back. "Don't cry," the biggest one urged.

"I gotta," the Lybbla said. "It's in the books."

"You have it backward. You *don't* cry over spilt milk."

"Do. Will," said the recalcitrant Lybbla, and began to weep.

Gallegher brought him more milk. "About this heat ray," he said. "Just how—"

"Simple," the fat Lybbla said, and explained.

It *was* simple. Grandpa didn't get it, of course, but he watched interestedly as Gallegher went to work. Within half an hour the job was completed. It was a heat ray, too. It burned a hole through a closet door.

"*Whew!*" Gallegher breathed, watching smoke rise from the charred wood. "That's something!" He examined the small metal cylinder in his hand.

"It kills people, too," the fat Lybbla murmured. "Like the man in the back yard."

"Yes, it— What? The man in—"

"The back yard. We sat on him for a while, but he got cold after a bit. There's a hole burned through his chest.

"You did it," Gallegher accused, gulping.

"No. He came out of time, too, I expect. There was a heat-ray hole in him."

"Who . . . who was he?"

"Never saw him before in my life," the fat Lybbla said, losing interest. "I want more milk." He leaped to the bench top and peered through the window at the towers of Manhattan's skyline. "*Whee!* The world is ours!"

The doorbell sang. Gallegher, a little pale, said, "Grandpa, see what it is. Send him away in any case. Probably a bill collector. They're used to being turned away. Oh, Lord! I've never committed a murder before—"

"I have." Grandpa murmured, departing. He did not clarify the statement.

Gallegher went into the back yard, accompanied by the scuttling small figures of the Lybblas. The worst had happened. In the middle of the rose garden lay a dead body. It was the corpse of a man, bearded and ancient, quite bald, and wearing curious garments made, apparently, of flexible, tinted cellophane. Through his tunic and chest was the distinctive hole burned by a heat-ray projector.

"He looks familiar, somehow," Gallegher decided. "Dunno why. Was he dead when he came out of time?"

"Dead but warm," one of the Lybblas said. "That was nice."

Gallegher repressed a shudder. Horrid little creatures. However, they must be harmless, or they wouldn't have been allowed access to dangerous information in their time-era. Gallegher was far less troubled by the Lybblas than by the presence of the corpse. Grandpa's protesting voice came to his ears.

The Lybblas scurried under convenient bushes and disappeared as three men entered the back yard, escorting Grandpa. Gallegher, at sight of blue uniforms and brass buttons, dropped the heat-ray projector into a garden bed and surreptitiously kicked dirt over it. He assumed what he hoped was an ingratiating smile.

"Hello, boys. I was just going to notify Headquarters. Somebody dropped a dead man in my yard."

Two of the newcomers were officers, Gallegher saw, burly, distrustful and keen-eyed. The third was a small, dapper man with gray-blond hair plastered close to his narrow skull, and a pencil-thin mustache. He looked rather like a fox.

He was wearing an Honorary Badge—which meant little or much, depending on the individual.

"Couldn't keep 'em out," Grandpa said. "You're in for it now, young fellow."

"He's joking," Gallegher told the officers. "Honest, I was going to—"

"Save it. What's your name?"

Gallegher said it was Gallegher.

"Uh-huh." The officer knelt to examine the body. He blew out his breath sharply. *"Wh-ew!* What did you do to him?"

"Nothing. When I came out this morning, here he was. Maybe he fell out of a window up there somewhere." Gallegher pointed up vaguely to overshadowing skyscrapers.

"He didn't. Not a bone broken. Looks like you stabbed him with a red-hot poker," the officer remarked. "Who is he?"

"I don't know. Never saw him before. Who told you—"

"Never leave bodies in plain sight, Mr. Gallegher. Somebody in a penthouse—like up there—might see it and 'vise Headquarters."

"Oh. Oh, I see."

"We'll find out who killed the guy," the officer said sardonically. "Don't worry about that. And we'll find out who he is. Unless you want to talk now and save yourself trouble."

"Circumstantial evidence—"

"Save it." The air was patted with a large palm. "I'll 'vise the boys to come down with the coroner. Where's the 'visor?"

"Show him, Grandpa," Gallegher said wearily. The dapper blond man took a step forward. His voice was crisp with authority.

"Groarty, take a look around the house while Banister's televising. I'll stay here with Mr. Gallegher."

"O.K., Mr. Cantrell." The officers departed with Grandpa.

Cantrell said, "Excuse me," and came forward swiftly. He dug slim fingers into the dirt at Gallegher's feet and brought up the heat-ray tube. Smiling slightly, Cantrell examined the projector.

Gallegher's heart nosedived. "Wonder where that came from?" he gulped, in a frantic attempt at deception.

"You put it there," Cantrell told him. "I saw you do it. Luckily the officers didn't. I think I'll keep it." He slipped the small tube into his pocket. "Exhibit A. That's a damn peculiar wound in your corpse—"

"It's not my corpse!"

"It's in your yard. I'm interested in weapons, Mr. Gallegher. What sort of gadget is this?"

"Uh—just a flashlight."

Cantrell took it out and aimed it at Gallegher. "I see. If I press this button—"

"It's a heat ray," Gallegher said quickly, ducking. "For goodness sake, be careful!"

"Hm-m-m. You made it?"

"I . . . yes."

"And you killed this man with it?"

"No!"

"I suggest," Cantrell said, repocketing the tube, "that you keep your mouth shut about this. Once the police get their hands on the weapon, your goose will be cooked. As it is, no known gun can make a wound like that. Proof will be difficult. For some reason, I believe you didn't kill the man, Mr. Gallegher. I don't know why. Perhaps because of your reputation. You're known to be eccentric, but you're also known to be a pretty good inventor."

"Thanks," Gallegher said. "But . . . the heat ray's mine."

"Want me to mark it Exhibit A?"

"It's yours.'

"Fine," Cantrell said, grinning. "I'll see what I can do for you."

He couldn't do much, as it proved. Almost anyone could wangle an Honorary Badge, but political pull didn't necessarily mean a police in. The machinery of the law, once started, couldn't easily be stopped. Luckily the rights of the individual were sacrosanct in this day and age, but that was chiefly because of the development of communication. A criminal simply couldn't make a getaway. They told Gallegher not to leave Manhattan, secure in the knowledge that if he tried, the televisor system would quickly lay him by the heels. It wasn't even necessary to set guards. Gallegher's three-dimensional photo was already on file at the transportation centers of Manhattan, so that if he tried to book passage on a stratoliner or a sea-sled, he could be recognized instantly and sent home with a scolding.

The baffled coroner had superintended the removal of the body to the morgue. The police and Cantrell had departed. Grandpa, the three Lybblas, and Gallegher sat in the laboratory and looked dazedly at one another.

"Time machine," Gallegher said, pressing buttons on his liquor organ. "Bah! Why do I do these things?"

"They can't prove you're guilty," Grandpa suggested.

"Trials cost money. If I don't get a good lawyer, I'm sunk."

"Won't the court give you a lawyer?"

"Sure, but that isn't the way it works out. Jurisprudence has developed into something like a chess game these days. It takes a gang of experts to know all the angles. I could be convicted if I overlooked even one loophole. Attorneys have the balance of political power, Grandpa. So they've got their lobbies. Guilt and innocence don't mean as much as getting the best lawyers. And that takes money."

"You won't need money," the fattest Lybbla said. "When we conquer the world, we'll set up our own monetary system."

Gallegher ignored the creature. "You got any dough, Grandpa?"

"Nope. Never needed much up in Maine."

Gallegher cast desperate eyes around the laboratory. "Maybe I can sell something. That heat-ray projector—but no. I'd be sunk if anybody knew I'd had the thing. I only hope Cantrell keeps it under cover. The time machine—" He wandered over and stared at the cryptic object. "Wish I could remember how it works. Or why."

"You made it, didn't you?"

"My subconscious made it. My subconscious does the *damnedest* things. Wonder what that lever's for." Gallegher investigated. Nothing happened. "It's fearfully intricate. Since I don't know how it works, I can't very well raise money on it."

"Last night," Grandpa said thoughtfully, "you were yelling about somebody named Hellwig who'd given you a commission."

A light came into Gallegher's eyes, but died swiftly. "I remember. A pompous big shot who's a complete nonentity. Terrific vanity complex. He wants to be famous. Said he'd pay me plenty if I could fix him up."

"Well, why don't you?"

"How?" Gallegher demanded. "I could invent something and let him pretend he'd made it, but nobody'd ever believe a pothead like Rufus Hellwig could do more than add two and two. If that. Still—"

Gallegher tried the televisor. Presently a large, fat white face grew on the screen. Rufus Hellwig was an immensely fat, bald-headed man with a pug nose and the general air of a Mongolian idiot. By virtue of money, he had achieved power, but public recognition eluded him, to his intense distress. Nobody admired him. He was laughed at—simply because he had nothing but money. Some tycoons can carry this off well. Hellwig couldn't. He scowled at Gallegher now.

"Morning. Anything yet?"

"I'm working on something. But it's expensive. I need an advance."

"Oh," Hellwig said unpleasantly, "you do, eh? I gave you an advance last week."

"You could have," Gallegher said. "I don't remember it."

"You were drunk."

"Oh. Was I?"

"You were quoting Omar."

"What part?"

"Something about spring vanishing with the rose."

"Then I was drunk," Gallegher said sadly. "How much did I hook you for?"

Hellwig told him. The scientist shook his head.

"It just runs through my fingers like water. Oh, well. Give me more money."

"You're crazy," Hellwig growled. "Show results first. Then you can write your own ticket."

"Not in the gas chamber I can't," Gallegher said, but the tycoon had broken the beam. Grandpa took a drink and sighed.

"What about this guy Cantrell? Maybe he can help."

"I doubt it. He had me on the spot. Still has, in fact. I don't know anything about him."

"Well, I'm going back to Maine," Grandpa said.

Gallegher sighed. "Running out on me?"

"Well, if you've got more liquor—"

"You can't leave, anyway. Accessory before the fact or something of the sort. Sure you can't raise any money?"

Grandpa was sure. Gallegher looked at the time machine again and sighed unhappily. Damn his subconscious, anyway! That was the trouble with knowing science by ear, instead of the usual way. The fact that Gallegher was a genius didn't prevent him from getting into fantastic scrapes. Once before, he remembered, he'd invented a time machine of sorts, but it hadn't worked like this one. The thing sat sullenly in its corner, an incredibly complicated gadget of glistening metal, its focus of materialization aimed somewhere in the back yard.

"I wonder what Cantrell wanted with that heat ray," Gallegher mused.

The Lybblas had been investigating the laboratory with interested golden eyes and twitching pink noses. Now they came back to sit in a row before Gallegher.

"When we conquer the world, you won't have to worry," they told the man.

"Thanks," Gallegher said. "That helps a lot. The immediate need, however, is dough, and lots of it. I must get me a lawyer."

"Why?"

"So I won't be convicted for murder. It's hard to explain. You're not familiar with this time sector—" Gallegher's jaw dropped. "Oh-oh. I got an idea."

"What is it?"

"You told me how to make that heat ray. Well, if you can give me an angle on something else—something that'll bring in quick money—"

"Of course. We'll be glad to do that. But a mental hookup would help."

"Never mind that. Start talking. Or let me ask questions. Yeah, that'll be better, What sort of gadgets do you have in your world?"

The doorbell sang. The visitor was a police detective, Mahoney, a tall, sardonic-looking chap with slick blue-black hair. The Lybblas, undesirous of attracting attention before they'd worked out a plan for world conquest, scuttled out of sight. Mahoney greeted the two men with a casual nod.

"Morning. We ran into a little snag at Headquarters. A mix-up—nothing important."

"That's too bad," Gallegher said. "Have a drink?"

"No, thanks. I want to take your fingerprints. And your eyeprints, if you don't mind."

"O.K. Go ahead."

Mahoney called in a lab man who had accompanied him. Gallegher's fingertips were pressed against sensitized film, and a specially lensed camera snapped the pattern of rods, cones and blood vessels inside his eyes. Mahoney watched, scowling. Presently the lab man showed the result of his labors to the detective.

"That tears it," Mahoney said.

"What?" Gallegher wanted to know.

"Nothing much. That corpse in your back yard—"

"Yeah?"

"His prints are the same as yours. And his eye-pattern, too. Even plastic surgery couldn't account for that. Who was that stiff, Gallegher?"

The scientist blinked. "Jumping tomcats! My prints? It's crazy."

"Crazy as the devil," Mahoney agreed. "Sure you don't know the answer?"

The lab man, at the window, let out a long whistle. "Hey, Mahoney," he called. "Come over here a minute. Want to show you something."

"It'll keep."

"Not long, in this weather," the lab man said. "It's another corpse, out there in the garden."

Gallegher exchanged horrified glances with Grandpa. He sat motionless even after the detective and his companion had tumultuously rushed out of the laboratory. Cries came from the back yard.

"Another one?" Grandpa said.

Gallegher nodded. "Looks like it. Come on. We'd better—"

"We'd better make a run for it!"

"No soap. Let's see what it is this time."

It was, as Gallegher already knew, a body. It, too, had been killed by a narrow hole burned through the fabricloth vest and the torso beneath. A heat-ray blast, undoubtedly. The man himself gave Gallegher a poignant shock—with good reason. He was looking at his own corpse.

Not quite. The dead man looked about ten years older than Gallegher, the face was thinner, the dark hair sprinkled with gray. And the costume was of an extreme cut, unfamiliar and eccentric. But the likeness was unmistakable.

"Uh-huh," Mahoney said, looking at Gallegher. "Your twin brother, I suppose?"

"I'm as surprised as you are," the scientist said feebly.

Mahoney clicked his teeth together. He took out a cigar and lit it with trembling fingers.

"Now look," he said, "I don't know what kind of funny business is going on here, but I don't like it. I got goose bumps. If this stiff's eyeprints and fingerprints tally with yours, I . . . won't . . . like . . . it. I'll hate it like hell. I don't want to feel that I'm going nuts. See?"

"It's impossible," the lab man said.

Mahoney shepherded them into the house and televised Headquarters. "Inspector? About that body that was brought in an hour ago—Gallegher, you know—"

"Found it?" the inspector asked.

Mahoney blinked. "Huh? I mean the one with the funny fingerprints—"

"I know what you mean. Have you found it or haven't you?"

"But it's in the morgue!"

"It was," the inspector said, "up to about

ten minutes ago. Then it was snatched. Right out of the morgue."

Mahoney let that soak in briefly, while he licked his lips. "Inspector," he said presently, "I've got another body for you. A different one, this time. I just found it in Gallegher's back yard, Same circumstances."

"What?"

"Yeah. A hole burned through the chest. And it looks like Gallegher."

"Looks like him— What about those prints I told you to check?"

"I did. The answer is yes."

"It couldn't be."

"Wait'll you see the new corpse," Mahoney growled. "Send the boys over, will you?"

"Right away. What sort of crazy business—"

The connection broke. Gallegher passed drinks and collapsed on the couch, manipulating the liquor organ. He felt giddy.

"One thing," Grandpa said, "you can't be tried for murdering that first body. If it's been stolen, there's no *corpus delicti.*"

"I'll be— That's right!" Gallegher sat up. "Isn't that so, Mahoney?"

The detective hooded his eyes. "Sure. Technically. Only don't forget what I just found outside. You can be gassed for his murder, once you're convicted."

"Oh." Gallegher lay back. "That's right. But I didn't kill him."

"That's your story."

"O.K. I'm sticking to it. Wake me up when the fuss is over. I've got some thinking to do." Gallegher slipped the siphon into his mouth, adjusted it to a slow trickle, and relaxed, absorbing cognac. He shut his eyes and pondered. The answer eluded him.

Abstractedly Gallegher realized that the room was filling, that the routine was gone over again. He answered questions with half his mind. In the end, the police left, bearing the second body. Gallegher's brain, stimulated by alcohol, was sharper now. His subconscious was taking over.

"I got it," he told Grandpa. "I hope. Let's see." He went to the time machine and fiddled with levers. "Oh-oh. I can't shut it off. It must have been set to a definite cycle pattern. I'm beginning to remember what happened last night."

"About foretelling the future?" Grandpa asked.

"Uh-huh. Didn't we get in an argument about whether a man could foretell his own death?"

"Right."

"Then that's the answer. I set the machine to foretell my own death. It follows the temporal line, catches up with my own future in *articulo mortis,* and yanks my body back to this time sector. My future body, I mean."

"You're crazy," Grandpa suggested.

"No, that's the angle, all right," Gallegher insisted. "That first body was myself, at the age of seventy or eighty. I'm going to die then. I'll be killed, apparently, by a heat ray. In forty years from now or thereabouts," he finished thoughtfully. "Hm-m-m. Cantrell's got that ray projector—"

Grandpa made a face of distaste. "What about the second corpse, then? You can't fit that in, I bet."

"Sure I can. Parallel time developments. Variable futures. Probability lines. You've heard that theory."

"Nope.'

"Well—it's the idea that there are an infinity of possible futures. If you change the present, you automatically switch into a different future. Like throwing a switch in a railroad yard. If you hadn't married Grandma, I wouldn't be here now. See?"

"Nope," Grandpa said, taking another drink.

Gallegher went ahead, anyway. "According to pattern *a,* I'm going to be killed by a heat ray when I'm seventy or so. That's one variable. Well, I brought back my dead body along the temporal line, and it appeared in the present. And naturally, it altered the present. Originally, in pattern *a,* there was no place for the eighty-year-old dead body of Gallegher. It was introduced and changed the future. We automatically switched into another time track."

"Pretty silly, eh?" Grandpa mumbled.

"Shut up, Grandpa. I'm working this out. The second track—pattern *b*—is in operation now. And in that track I'm going to be killed by a heat ray when I'm about forty-five. Since the time machine's set to bring back my body the minute it's killed, it did just that—materialized my forty-five-year-old corpse. At which the eighty-year-old corpse vanished."

"Hah!"

"It had to. It was nonexistent in pattern *b.* When pattern *b* jelled, pattern *a* simply wasn't there any more. Likewise the first corpse."

Grandpa's eyes lit up suddenly. "I get it,"

he said, smacking his lips. "Clever of you. You're going to plead insanity, eh?"

"Bah," Gallegher snarled, and went to the time machine. He tried vainly to turn it off. It wouldn't turn off. It seemed to be fixed irrevocably in its business of materializing Gallegher's future probable corpses.

What would happen next? Temporal pattern *b* had taken over. But the *b* corpse wasn't intended to exist in this particular present. It was an *x* factor.

And *b* plus *x* would equal *c*. A new variable, and a new cadaver. Gallegher cast a harried glance into the back yard. As yet, it was empty. Thank Heaven for small mercies.

At any rate, he thought, they couldn't convict him of murdering himself. Or could they? Would the law about suicide hold? Ridiculous. He hadn't committed suicide; he was still alive.

But if he was still alive, he couldn't be dead. Utterly confused, Gallegher fled to the couch, gulped strong drink, and longed for death. He foresaw a court battle of impossible contradictions and paradoxes—a battle of the century. Without the best lawyer on Earth, he'd be doomed.

A new thought came, and he laughed sardonically. Suppose he were to be convicted of murder and gassed? If he died in the present, his future corpse would instantly vanish—naturally. No *corpus delicti*. Inevitably—oh, very inevitably—he would be vindicated after he died.

The prospect failed to cheer him.

Reminded of the need for action, Gallegher yelled for the Lybblas. They had got into the cookie jar, but responded guiltily to his summons, brushing crumbs from their whiskers with furry paws. "We want Milk," the fattest one said. "The world is ours."

"Yes," said another, "we'll destroy all the cities and then hold pretty girls for—"

"Leave it," Gallegher told them tiredly. "The world will wait. I can't. I've got to invent something in a hurry so I can get some money and hire a lawyer. I can't spend the rest of my life being indicted for my future corpses' murders."

"You talk like a madman," Grandpa said helpfully.

"Go away. Far away. I'm busy."

Grandpa shrugged, donned a topcoat, and went out. Gallegher returned to his cross-questioning of the three Lybblas.

They were, he found, singularly unhelpful. It wasn't that they were recalcitrant; on the contrary, they were only too glad to oblige. But they had little idea of what Gallegher wanted. Moreover, their small minds were filled, to the exclusion of all else, with their own fond delusion. The world was theirs. It was difficut for them to realize that other problems existed.

Nevertheless, Gallegher persevered. Finally he got a clue to what he wanted, after the Lybblas had again referred to a mental hookup. Such devices, he learned, were fairly common in the world of the future. They had been invented by a man named Gallegher, long ago, the fat Lybbla said stupidly, not grasping the obvious implication.

Gallegher gulped. He *had* to make a mental hookup machine now, apparently, since that was in the cards. On the other hand, what if he didn't? The future would be changed again. How was it, he wondered, that the Lybblas hadn't vanished with the first corpse—when pattern *a* had switched to variable *b?*

Well, the question wasn't unanswerable. Whether or not Gallegher lived his life, the Lybblas, in their Martian valley, would be unaffected. When a musician strikes a false note, he may have to transpose for a few bars, but will drift back into the original key as soon as possible. Time, it seemed, trended toward the norm. Heigh-ho.

"What is this mental hookup business?" he demanded.

They told him. He pieced it out from their scatterbrained remarks, and discovered that the device was strange but practical. Gallegher said something about wild talents under his breath. It amounted to that.

With the mental hookup, a dolt could learn mathematics in a few moments. The application, of course, would require practice—mental dexterity must be developed. A stiff-fingered bricklayer could learn to be an expert pianist, but it would take time before his hands could be limbered up and made sufficiently responsive. However, the important point was that talents could be transferred from one brain to another.

It was a matter of deduction, through charts of the electrical impulses emitted by the brain. The pattern varies. When a man is asleep, the curve levels out. When he is dancing, for example, his subconscious automatically guides his feet—if he's a sufficiently good dancer. That pattern is distinctive. Once recorded and recognized, it can be traced later—and the factors that

go to make up a good dancer traced, as by a pantograph, on another brain.

Whew!

There was a lot more, involving memory centers and so forth, but Gallegher got the gist of it. He was impatient to begin work. It fitted a certain plan he had—

"Eventually you learn to recognize the chart lines at a glance," one of the Lybblas told him. "It—the device—is used a great deal in our time. People who don't want to study get the knowledge pumped into their minds from the brains of noted savants. There was an Earthman in the Valley once who wanted to be a famous singer, but he was tone-deaf. Couldn't carry a note. He used the mental hookup, and after six months he could sing anything."

"Why six months?"

"His voice wasn't trained. That took time. But after he'd got in the groove he—"

"Make us a mental hookup," the fat Lybbla suggested. "Maybe we can use it to conquer Earth."

"That," Gallegher said, "is exactly what I'm going to do. With a few reservations—"

Gallegher televised Rufus Hellwig, on the chance that he might induce the tycoon to part with some of his fortune, but without success. Hellwig was recalcitrant. "Show me," he said. "Then I'll give you a blank check."

"But I need the money now," Gallegher insisted. "I can't give you what you want if I'm gassed for murder."

"Murder? Who'd you kill?" Hellwig wanted to know.

"I didn't kill anybody. I'm being framed—"

"So am I. But I'm not falling, this time. Show me results. I make you no more advances, Gallegher."

"Look. Wouldn't you like to be able to sing like a Caruso? Dance like Nijinsky? Swim like Weissmuller? Make speeches like Secretary Parkinson? Make like Houdini?"

"Have you got a snootful!" Hellwig said ruminatively, and broke the beam. Gallegher glared at the screen. It looked as though he'd have to go to work, after all.

So he did. His trained, expert fingers flew, keeping pace with his keen brain. Liquor helped, liberating his demon subconscious. When in doubt, he questioned the Lybblas. Nevertheless the job took time.

He didn't have all the equipment he needed, and 'vised a supply company, managing to wangle sufficient credit to swing the deal on the cuff. He kept working. Once he was interrupted by a mild little man in a derby who brought a subpoena, and once Grandpa wandered in to borrow five credits. The circus was in town, and Grandpa, as an old big-top enthusiast, couldn't miss it.

"Want to come along?" he inquired. "I might get in a crap game with some of the boys. Always got on well with circus people, somehow. Won five hundred once from a bearded lady. Nope? Well, good luck."

He went away, and Gallegher returned to his mental hookup device. The Lybblas contentedly stole cookies and squabbled amicably about the division of the world after they'd conquered it. The machine grew slowly but inevitably.

As for the time machine itself, occasional attempts to turn it off proved only one thing: it had frozen into stasis. It seemed to be fixed in a certain definite pattern, from which it was impossible to budge it. It had been set to bring back Gallegher's variable corpses. Until it had fulfilled that task, it stubbornly refused to obey additional order. *"There was an old maid from Vancouver,"* Gallegher murmured absently. "Let's see. I need a tight beam here—Yeah. *She jumped on his knee with a chortle of* glee— If I vary the receptor-sensibility on the electromagnetic current— Hm-m-m— *And nothing on Earth could remove 'er.* Yeah, that does it."

It was right. Gallegher hadn't been conscious of the passing of hours. The Lybblas, bulging with filched cookies, had made no complaint, except occasional demands for more milk. Gallegher had drunk steadily as he worked, keeping his subconscious to the fore. He hadn't realized till now that he was hungry. Sighing, he looked at the completed mental hookup device, shook his head, and opened the door. The back yard lay empty before him.

Or—

No, it was empty. No more corpses just yet. Time-variable pattern *b* was still in operation. He stepped out and let the cool night air blow on his hot cheeks. The blazing towers of Manhattan made ramparts against the night around him. Above, the lights of air traffic flickered like devil fireflies.

There was a sodden thump near by. Gallegher whirled, startled. A body had fallen out of empty air and lay staring blankly up in the middle of his rose garden. His stomach cold, Gallegher investigated.

The corpse was that of a middle-aged

man, between fifty and sixty, with a silky dark mustache and eyeglasses. Unmistakably, though, it was Gallegher. A Gallegher aged and altered by time-variable *c*—*c* now, not *b* any more—and with a hole burned through the breast by a heat-ray projector.

At that precise moment, Gallegher realized, corpse *b* must have vanished from the police morgue, like its predecessor.

Uh-huh. In time-pattern *c*, then, he wasn't to die till he was over fifty—but even then a heat ray would kill him. Depressing. Gallegher thought of Cantrell, who'd taken the ray projector, and shivered slightly. Matters were growing more and more confusing.

Well, presently the police would arrive. In the meantime, he was hungry. With a last shrinking glance at his own dead, aged face, Gallegher returned to the laboratory, picked up the Lybblas on the way, and herded them into the kitchen, where he fixed a makeshift supper. There were steaks, luckily, and the Lybblas gobbled their portions like pigs, talking excitedly about their fantastic plans. They'd decided to make Gallegher their Grand Vizier.

"Is he wicked?" the fat one demanded.

"I don't know. Is he?"

"He's gotta be wicked. In the novels the Grand Vizier's *always* wicked. *Whee!*" The fat Lybbla choked on a bit of steak. "Ug . . . uggle . . . *ulp!* The world is ours!"

Deluded little creatures, Gallegher mused. Incurable romanticists. Their optimism was, to say the least, remarkable.

His own troubles engrossed him as he slid the plates into the Burner—"It Burns Them Clean"—and fortified himself with a beer. The mental hookup device should work. He knew of no reason why it shouldn't. His genius subconscious had really built the thing—

Hell, it had to work. Otherwise the Lybblas wouldn't have mentioned that the gadget had been invented by Gallegher, long in their past. But he couldn't very well use Hellwig as a guinea pig.

A rattle at the door made Gallegher snap his fingers in triumph. Grandpa, of course! That was the answer.

Grandpa appeared, beaming. "Had fun. Circuses are always fun. Here's a couple of hundred for you, stupid. Got to playing stud poker with the tattooed man and the guy who dives off a ladder into a tank. Nice fellows. I'm seeing 'em tomorrow."

"Thanks," Gallegher said. The two hundred was penny-ante stuff, but he didn't want to antagonize the old goat now. He managed to lure Grandpa into the laboratory and explain that he wanted to make an experiment.

"Experiment away," said Grandpa, who had found the liquor organ.

"I've made some charts of my own mental patterns and located my bump of mathematics. It amounts to that. The atomic structure of pure learning, maybe— It's a bit vague. But I can transfer the contents of my mind to yours, and I can do it selectively. I can give you my talent for mathematics—"

"Thanks," Grandpa said. "Sure you won't be needing it?"

"I'll still have it. It's the matrix, that's all,"

"Mattress?"

"Matrix. Pattern. I'll just duplicate that pattern in your brain. See?"

"Sure," Grandpa said, and allowed himself to be led to a chair where a wired helmet was fitted over his head. Gallegher donned another helmet and began to fiddle with the device. It made noises and flashed lights. Presently a low buzzing rose to a crescendo scream, and then stopped. That was all.

Gallegher removed both helmets. "How do you feel?" he asked.

"Fit as a fiddle."

"No different?"

"I want a drink."

"I didn't give you my drinking ability, because you already had your own. Unless I doubled it—" Gallegher paled. "If I gave you my thirst, too, you couldn't stand it. You'd die."

Muttering something about blasted foolishness, Grandpa replenished his dry palate. Gallegher followed him and stared perplexedly at the old fellow.

"I couldn't have made a mistake. The charts— What's the value of *pi?*" he snapped suddenly.

"A dime is plenty," Grandpa said. "For a big slice."

Gallegher cursed. The machine must have worked. It *had* to work, for a number of reasons, chief of which was the question of logic. Perhaps—"

"Let's try it again. I'll be the subject this time."

"O.K.," Grandpa said contentedly.

"Only—hm-m-m. You haven't got any talents. Nothing unusual. I couldn't be sure

whether it worked or not. If you'd only been a concert pianist or a singer," Gallegher moaned.

"Hah!"

"Wait a minute. I've an idea. I've got connection at a teleview studio—maybe I can wangle something." Gallegher used the 'visor. It took some time, but presently he managed to induce Señor Ramon Firez, the Argentine tenor, to hop an air taxi and come down to the laboratory in a hurry.

"Firez!" Gallegher gloated. "That'll prove it, one way or the other. One of the greatest voices in the hemisphere! If I suddenly find myself singing like a lark, I'll know I can use the gadget on Hellwig."

Firez, it seemed, was night-clubbing but at the studio's request he shelved his nocturnal activities for the nonce and appeared within ten minutes, a burly, handsome man with a wide, mobile mouth. He grinned at Gallegher.

"You say there is trouble, that I can help with my great voice, and so I am at your service. A recording, is it?"

"Something of the sort."

"To win a bet, perhaps?"

"You can call it that," Gallegher said, easing Firez into a chair. "I want to record the mental patterns of your voice."

"Ah-h, that is something new! Explain, please!"

The scientist obediently launched into a completely meaningless jargon that served the purpose of keeping Señor Firez pacified while he made the necessary charts. That didn't take long. The significant curves and patterns showed unmistakably. The graph that represented Firez's singing ability—his great talent.

Grandpa watched skeptically while Gallegher made adjustments, fitted the helmets into place, and turned on the device. Again lights flashed and wires hummed. And stopped.

"It is a success? May I see—"

"It takes awhile to develop the prints," Gallegher lied unscrupulously. He didn't want to burst into song while Firez was still present. "I'll bring the results out to your apartment as soon as they're done."

"Ah-h, good. *Muy bueno.*" White teeth flashed. "I am always happy to be of service, *amigo!*"

Firez went away. Gallegher sat down and looked at the wall, waiting. Nothing happened. He had a slight headache, that was all.

"Through fiddling?" Grandpa demanded.

"Yeah. *Do-re-mi-fa-so—*"

"What?"

"Shut up. *I Pagliacci—*"

"You're crazy as a bedbug."

"*I love a parade!*" howled the frantic Gallegher, his tuneless voice cracking. "Oh, hell! *Seated one day at the organ—*"

"*She'll be coming 'round the mountain,*" Grandpa chimed in chummily. "*She'll be coming 'round the mountain—*"

"*I was weary and ill at ease—*"

"*She'll be coming 'round the mountain—*"

"*And my fingers wandered idly—*"

"*WHEN SHE COMES!*" Grandpa blatted, always the life of the party. "Used to carry a tune pretty well in my young days. Let's get together now. Know 'Frankie and Johnnie'?"

Gallegher repressed an impulse to burst into tears. With a cold glance at Grandpa, he went into the kitchen and opened a bulb of beer. The cool catnip taste refreshed him, but failed to raise his spirits. He couldn't sing. Not in the manner of Firez, anyhow. Nor would six months of training his larynx work any appreciable change, he knew. The device simply had failed to work. Mental hookup, nuts.

Grandpa's voice called shrilly.

"Hey! I found something in the back yard!"

"I don't need three guesses," Gallegher said moodily, and went to work on the beer.

Three hours later—at ten p.m.—the police arrived. The reason for the delay was simply explained; the body in the morgue had vanished, but its disappearance hadn't been detected for some time. Then there had been a thorough search, yielding, of course, not the slightest result. Mahoney appeared, with his cohorts, and Gallegher waved them into the back yard. "You'll find it out there," he sighed.

Mahoney glared at him. "More funny business, eh?" he snapped.

"None of my doing."

The troupe poured out of the lab, leaving a slim, blond man eying Gallegher thoughtfully.

"How goes it?" Cantrell inquired.

"Uh—O.K."

"You got any more of those—gadgets—hidden around here?"

"The heat-ray projectors? No."

"Then how do you keep killing people that way?" Cantrell asked plaintively. "I don't get it."

"He explained it to me," Grandpa said, "but I didn't understand what he was talking about. Not then. I do now, of course. It's simply a matter of variable temporal lines. Planck's uncertainty principle enters into it, and Heisenberg, obviously. Laws of thermodynamics show clearly that a universe tends to return to the norm, which is our known rate of entropy, and variations from that norm must necessarily be compensated for by corresponding warps in the temporal-spatial structure of the universal cosmos-equation."

There was silence.

Gallegher went to the wall and drew a glass of water, which he poured slowly over his head. "You understand that, do you?" he asked.

"Sure," Grandpa said. "Why not? The mental hookup gave me your mathematical talent—which included vocabulary, I suppose."

"You been holding out on me?"

"Hell, no. It takes awhile for the brain to readjust to the new values. That's a safety valve, I guess. The sudden influx of a completely novel set of thought-patterns would disrupt the mind completely. It sinks in—three hours or so it takes. It's been that long or more, hasn't it?"

"Yeah," Gallegher said. "Yeah." He caught sight of the watching Cantrell and managed a smile. "A little joke Grandpa and I have between ourselves. Nothing in it."

"Hm-m-m," Cantrell said, his eyes hooded. "That so?"

"Yeah. Sure. That's all."

A body was carried in from the back yard and through the laboratory. Cantrell winked, patted his pocket significantly, and drew Gallegher into a corner.

"If I showed anybody that heat ray of yours, you'd be sunk, Gallegher. Don't forget that."

"I'm not. What the devil do you want, anyhow?"

"Oh—I dunno. A weapon like this might come in plenty handy. One never knows. Lots of holdups these days. I feel safer with this thing in my pocket."

He drew back as Mahoney came in, chewing his lips. The detective was profoundly disturbed.

"That guy in the back yard—"

"Yeah?"

"He looks like you, a bit. Only older."

"How about the fingerprints, Mahoney?" Cantrell asked.

The detective growled something under his breath. "You know the answer. Impossible, as usual. Eyeprints check, too. Now listen, Gallegher, I'm going to ask you some questions and I want straight answers. Don't forget you're under suspicion of murder."

"Whom did I murder?" Gallegher asked. "The two guys who vanished from the morgue? There's no *corpus delicti*. Under the new Codex, eyewitnesses and photographs aren't enough to prove murder."

"You know why that was put into effect," Mahoney said. "Three-dimensional broadcast images that people thought were real corpses—there was a stink about that five years ago. But those stiffs in your back yard aren't three-dis. They're real."

"Are?"

"Two were. One is. You're still on the spot. Well?"

Gallegher said, "I don't—" He stopped, his throat working. Abruptly, he stood up, eyes closed.

"Drink to me only with thine eyes, and I will pledge with mine," Gallegher sang, in a blasting tenor that, though untrained, rang true and resonant. *"Or leave a kiss within the cup—"*

"Hey!" Mahoney snapped, springing up. "Lay off. Hear me?"

"—and I'll not ask for wine! The thirst that from the soul doth rise—"

"Stop it!" the detective shouted. "We're not here to listen to you sing!"

Nevertheless, he listened. So did the others. Gallegher, caught in the grip of Señor Firez's wild talent, sang on and on, his unaccustomed throat gradually relaxing and pouring out the notes like the beak of a nightingale, Gallegher—sang!

They couldn't stop him. They fled, with threats. They would return later—with a strait jacket.

Grandpa also seemed caught in the throes of some strange affliction. Words poured out of him, strange semantic terms, mathematics translated into word-symbols, ranging from Euclid to Einstein and beyond. Grandpa, it seemed, had certainly acquired Gallegher's wild talent for math.

It came to an end, as all things, good or bad, inevitably do. Gallegher croaked hoarsely from a dry throat and, after a few feeble gasps, relapsed into silence. He collapsed on the couch, eying Grandpa, who was crumpled in a chair, wide-eyed. The three Lybblas had come out of hiding and stood in a row, each with a cookie clasped in furry paws.

"The world is mine," the fattest one said.

Events marched. Mahoney 'vised to say he was getting out a special injunction, and that Gallegher would be clapped in jail as soon as the machinery could be swung into action. Tomorrow, that meant.

Gallegher 'vised an attorney—the best one on the Eastern seaboard. Yes, Persson could quash the injunction, and certainly win the case, or—well, any how, Gallegher would have nothing to worry about if he retained the lawyer. The fee was payable partially in advance.

"How much? . . . *Uh!*"

"Call me," Persson said, "when you wish me to take charge. You may mail your check tonight."

"All right," Gallegher said, and hurriedly 'vised Rufus Hellwig. The tycoon, luckily, was in.

Gallegher explained. Hellwig was incredulous. He agreed, however, to be at the laboratory early the next morning for a test. He couldn't make it before then. Nor could he advance any money till matters had been proved beyond a doubt.

"Make me an excellent concert pianist," he said, "and I'll be convinced."

After that, Gallegher 'vised the teleview studio again, and managed to get in touch with Joey Mackenzie, the blond, beautiful pianist who had taken New York by storm recently and had instantly been signed by the telecompany. She said she'd be over in the morning. Gallegher had to talk her into it, but he dropped enough hints to rouse the girl's interest to fever pitch. She seemed to class science with black magic, and was fascinated by both.

She'd be there.

And another body appeared in the back yard, which meant probability-line *d* was taking over. No doubt the third corpse, at the same time, had vanished from the morgue. Gallegher almost felt sorry for Mahoney.

The wild talents settled down. Apparently the irresistible outburst came only at the beginning, some three hours or more after the initial treatment. After that, the ability could be turned on or off at will. Gallegher was no longer impelled to burst into song, but he found he could sing, and sing well, when he wished. Likewise Grandpa had a fine sense of mathematics when he chose to use it.

Finally, at five o'clock in the morning, Mahoney arrived with two officers, arrested Gallegher, and carried him off to jail.

He was incommunicado for three days.

Persson, the attorney, came on the evening of the third day armed with writs of habeas corpus and foul language. He sprang Gallegher, somehow—perhaps on his reputation. Later, in the air taxi, he threw up his hands and howled complaints.

"What kind of a case is this? Political pressure, legal tangles—it's crazy! Corpses appearing in your back yard—seven of them already—and vanishing from the morgue. What's behind it, Gallegher?"

"I'm not sure. You . . . uh . . . you're acting as my attorney?"

"Obviously." The taxi skimmed precariously past a skyscraper.

"The check—" Gallegher hazarded.

"Your grandfather gave it to me. Oh, he gave me a message, too. He said he'd treated Rufus Hellwig along the lines you'd suggested, and collected the fee. I can't feel that I have earned any part of my retainer yet, though. Letting you stay for three days! But I was up against powerful political pull. Had to pull plenty of wires myself."

So that was it. Grandpa, of course, had acquired Gallegher's mathematical talent, and knew all about the mental hookup and how it worked. He'd treated Hellwig—successfully, it seemed. At least, they were in the chips now. But would that be enough?

Gallegher explained as much as he dared. Persson shook his head.

"The time machine's behind it, you say? Well, you've got to turn it off somehow. Stop those corpses from coming through."

"I can't even smash it," Gallegher confessed. "I tried, but it's in a state of stasis. Completely out of this temporal-spatial sector. I don't know how long that'll last. It's set to bring back my own corpse—and it'll keep doing that."

"So. All right. I'll do my best. Anyway, you're a free man now. But I can't guarantee anything unless you eliminate those incessant corpses of yours, Mr. Gallegher. I get out here. See you tomorrow. At my office, at noon? Good."

Gallegher shook hands and directed the cabman to his own place. An unpleasant surprise awaited him. It was Cantrell who opened the door.

The man's narrow, pale face twitched into a smile. "Evening," he said pleasantly, stepping back. "Come in, Gallegher."

"I am in. What are you doing here?"

"Visiting. Visiting your grandfather."

Gallegher glanced around the laboratory. "Where is he?"

"I dunno. See for yourself."

Sensing danger of some kind, the scientist began to search. He found Grandpa eating pretzels in the kitchen, and feeding the Lybblas. The old man evaded his gaze.

"O.K.," Gallegher said, "let's have it."

"'Twasn't my fault. Cantrell said he'd turn over the heat ray to the police if I didn't do what he wanted. I knew that'd be your finish—"

"What's been happening?"

"Now take it easy. I got it all worked out. It can't do any harm—"

"What? *What?"*

"Cantrell's been making me use the machine on him," Grandpa confessed. "He peeked through the window when I treated Hellwig and figured out the answer. He threatened to get you convicted unless I gave him some extra talents.

"Whose?"

"Oh—Gulliver, Morleyson, Kottman, Denys, St. Malory—"

"That's enough," Gallegher said weakly. "The greatest technicians of the age, that's all! And their knowledge in Cantrell's brain! How did he wangle 'em into it?"

"Fast talking. He didn't let on what he wanted. Made up some cock-and-bull story— He got your mathematical talent, too. Through me."

"That's just fine," Gallegher said, looking grim. "What the devil is he up to?"

"He wants to conquer the world," the fattest Lybbla said sadly. "Oh, don't let him do it. We want to conquer the world."

"Not quite that," Grandpa said, "but bad enough. He's got the same knowledge we have now—enough to build another mental hookup. And he's taking the stratoliner to Europe in an hour."

"This means trouble," Gallegher said.

"Yeah, I know. I'm commencing to feel Cantrell's just a mite unscrupulous. He's the one responsible for your being kept in jail the last few days."

Cantrell opened the door and looked in. "There's a new corpse in the garden. It just appeared. We won't bother about it now, though. I'll be leaving shortly. Any word from Van Decker?"

"Van Decker!" Gallegher gulped. "You haven't got him—"

The man with the world's highest I.Q.!

"Not yet," Cantrell smiled. "I tried to get in touch with him for days and he 'vised me only this morning. I was afraid I'd miss him. But he said he'd be over tonight." Cantrell glanced at his watch. "Hope he's on time. Stratoliners won't wait."

"Just a minute," Gallegher said, moving forward. "I'd like to know your plans, Cantrell."

"He's going to conquer the world!" one of the Lybblas piped.

Cantrell sent an amused look downward. "It's not too fantastic, at that," he admitted. "I'm completely amoral, luckily, so I can take full advantage of this opportunity. The talents of the world's greatest minds—they'll come in handy. I'll be a success in almost anything. I mean anything," he added, winking.

"Dictator complex," Grandpa scowled.

"Not yet," Cantrell told him. "Some day, maybe. Give me time. I'm pretty much of a superman already, you know."

Gallegher said, "You can't—"

"No? Don't forget I've got that heat ray of yours."

"Yeah," the scientist said, "and those corpses in the back yard—my own corpses —were all killed with a heat ray. You're the only guy who has one, so far. Apparently you're ticketed to kill me, eventually."

"Eventually's better than now, isn't it?" Cantrell asked softly.

Gallegher didn't answer. The other man went on.

"I've skimmed the cream from the best minds on the East coast, and now I'll do the same thing to Europe. Anything can happen."

One of the Lybblas began to cry bitterly, seeing his plan of world conquest shattered.

The doorbell sang. Grandpa, at Cantrell's nod, went out, to return with a squat, beak-nosed man wearing a bushy red beard. "Ha!" he bellowed. "I am here! Not late, I trust? Good."

"Dr. van Decker?"

"Who else?" the redbeard shouted. "Now hurry, hurry, hurry. I am a busy man. This experiment of yours; as you explained it on the 'visor, it will not work, but I am willing to try. Projecting one's astral is foolishness."

Grandpa nudged Gallegher. "Cantrell told him that was the idea," he muttered.

"Yeah? Listen, we can't—"

"Take it easy," Grandpa said, and one eye closed in a significant wink. "I got your talents now, son. I thought of the answer. See if you can. I used your math. *Sh-h-h!"*

There was no time for more. Cantrell shepherded them all into the laboratory. Gallegher, scowling and biting his lip, pondered the problem. He couldn't let

Cantrell get away with this. But, on the other hand, Grandpa had said it was all right—that everything was under control.

The Lybblas, of course, had disappeared, probably in search of cookies. Cantrell, eying his watch, urged Van Decker into a chair. He kept one hand significantly on his pocket, and from time to time looked toward Gallegher. The ray gun was still around; its outline was visible beneath the flexcloth of Cantrell's coat.

"Show you how easy I can do it," Grandpa cackled, tottering on spindly legs toward the mental hookup device and throwing switches.

"Careful, Grandpa," Cantrell warned, his voice tight.

Van Decker stared. "Something is wrong?"

"No, no," Grandpa said. "Mr. Cantrell is afraid I will make a mistake. But no. This helmet—"

He fitted it on Van Decker's head. A stylus scratched wavering lines on graphs. Deftly Grandpa sheafed them together, fell over his own feet and collapsed, the cards flying far and wide. Before Cantrell could move the old man was up again, muttering oaths as he collected the charts.

He laid them on a table. Gallegher moved forward, peering over Cantrell's shoulder. *Whew!* This was the real thing, all right. Van Decker's I. Q. was tremendous. His wild talents were—well, wildly remarkable.

Cantrell—who also knew the details of the mental hookup now, since he had absorbed Gallegher's mathematical ability via Grandpa—nodded with satisfaction. He fitted a helmet on his own head and moved toward the device. With a cursory glance at Van Decker to see that all was well, he threw the switches. Lights blazed; the humming rose to a scream. And died.

Cantrell removed the helmet. As he reached into his pocket, Grandpa lifted a casual hand and showed a small, gleaming pistol.

"Don't do it," Grandpa said.

Cantrell's eyes narrowed. "Drop that gun."

"Nope. I figured you'd want to kill us and smash the machine, so you'd stay unique. It won't work. This gun's got a hair trigger. You can burn a hole in me, Cantrell, but you'll be dead while you're doing it."

Cantrell considered. "Well?"

"Get out. I don't want to be burned down, any more than you want a bullet in your stomach. Live and let live. Beat it."

Cantrell laughed softly. "Fair enough, Grandpa. You've earned it. Don't forget, I still know how to build the machine. And—I've skimmed the cream. You can do the same thing, but not any better than I can."

"So it's even," Grandpa said.

"Yes, it's even. We'll meet again. Don't forget what killed those corpses in your yard, Gallegher," Cantrell said, and backed out of the door, smiling tightly.

Gallegher came to life with a jump. "We've got to 'vise the police!" he snapped. "Cantrell's too dangerous now to let loose."

"Take it easy," Grandpa cautioned, waving the gun. "I told you it was all fixed up. You don't want to be convicted for murder, do you? If Cantrell's arrested—and we couldn't make a charge stick, anyway—the police would find the heat-ray projector. This way's better."

"What way?" Gallegher demanded.

"O.K., Mickey," Grandpa said, grinning at Dr. Simon van Decker, who took off his red beard and wig and started to laugh joyously.

Gallegher's jaw dropped. "A ringer!" he gasped.

"Sure. I 'vised Mickey privately a few days ago. Told him what I wanted. He dressed up, 'vised Cantrell, and pretended to be Van Decker. Made an appointment for tonight."

"But for charts. They showed a genius I. Q.—"

"I switched charts when I dropped 'em on the floor," Grandpa confessed. "I'd made up some fakes in advance."

Gallegher scowled. "That doesn't alter the situation, though. Cantrell's still loose, and with too damn much knowledge."

"Hold your horses, young fellow," Grandpa said. "Wait'll I explain."

He explained.

About three hours later the telecast news came through: a man named Roland Cantrell had fallen to his death from the Atlantic stratoliner.

Gallegher, however, knew the exact moment of Cantrell's death. For the corpse in the back yard had vanished at that time.

Because, with the heat-ray projector destroyed, Gallegher's future no longer could involve his death through a heat beam. Unless he made another, which he would take care not to do.

The time machine came out of its stasis

and returned to normal. Gallegher guessed why. It had been set to fulfill a definite pattern—involving the death of Gallegher according to a certain set of variables. Within the limits of those variables, it was frozen. It could not stop operating till it had exhausted all the possibilities. As long as any of Gallegher's probable futures held heat-ray death—corpses would appear.

Now the future was altered drastically. No longer did it involve *a, b, c,* et cetera. The heat ray—the prime factor of the equation—was destroyed in the present. So Gallegher's probable futures now involved a-1, b-1, c-1, et cetera.

And the machine wasn't set for such radical variations. It had fulfilled the task for which it had been set. Now it awaited new orders.

But Gallegher studied it thoroughly before using it again.

He had plenty of time. Without a single *corpus delicti,* Persson had no difficulty in getting the case quashed, though the unfortunate Mahoney nearly went mad trying to figure out what had happened. As for the Lybblas—

Gallegher absently passed around the cookies, wondering how he could get rid of the small, stupid creatures without hurting their feelings. "You don't want to stay here all your lives, do you?" he inquired.

"Well, no," one of them replied, brushing crumbs from his whiskers with a furry paw. "But we gotta conquer the Earth," he pointed out plaintively.

Mm-m-m," Gallegher said. And went out to make a purchase, returning later with some apparatus he surreptitiously attached to the televisor.

Shortly thereafter, the regular telecast was broken off for what purported to be a news flash. By a curious coincidence, the three Lybblas were watching the 'visor at the time. The scene on the screen faded into a close-up of the newscaster, whose face was almost entirely concealed by the sheaf of papers he held. From the eyebrows up—the only part visible—he looked much like Gallegher, but the Lybblas were too intrigued to notice.

"Flash!" said the 'visor excitedly. "Important bulletin! For some time the world has known of the presence of three distinguished visitors from Mars. They have—"

The Lybblas exchanged startled glances. One of them started to pipe a question and was hastily shushed. They listened again.

"They had been planning to conquer the Earth, it has been learned, and we are pleased to report that the world's entire population has gone over to the side of the Lybblas. A bloodless revolution has taken place. The Lybblas are unanimously acclaimed as our sole rulers—"

"Whee!" cried a small voice.

—"and the new form of government is already being set up. There will be a different fiscal system, and coins bearing the heads of the Lybblas are being minted. It is expected that the three rulers will shortly return to Mars to explain the situation to their friends there."

The newscaster's partially exposed face vanished from the screen, and the regular telecast resumed. After a while Gallegher appeared, smiling secretively. He was greeted with shrill shouts from the Lybblas.

"We gotta go home now. It was a bloodless—"

"Revolution! The world is ours!"

Their optimism was surpassed only by their credulity. Gallegher allowed himself to be convinced that the Lybblas must go back to Mars.

"O.K.," Gallegher agreed. "The machine's all ready. One last cookie all around, and then off you go."

He shook each fuzzy paw, bowed politely, and the three Lybblas, ears bobbing, piping excitedly among themselves, were shot back to Mars, five hundred years in the future. They were anxious to return to their friends and relate their adventures. They did—but nobody ever believed them.

There were no repercussions from Cantrell's death, though Gallegher, Grandpa and Mickey waited rather worriedly for several days before they felt able to relax. After that, Grandpa and Gallegher went on a terrific binge and felt far better.

Mickey couldn't join them. Regretfully, he returned to the circus lot, where, twice a day, he capitalized on his peculiar talents by diving from the top of a thirty-foot ladder into a tub filled with water—

THE END

PELAGIC SPARK

By ANTHONY BOUCHER

A man—one Mr. de Camp, of whom you may have heard —wrote an article ridiculing prophets. Another man lied, to deceive the enemy. And—de Camp, by magnificent confusion, became what he ridiculed: a prophet!

A.D. 1942:

Lieutenant L. Sprague de Camp, U.S.N.R., thumped the table and chuckled. "That will settle the Nostradamians!"

His pretty blonde wife made remarks about waking babies and then asked what on earth he meant.

"The prophecy fakers," he said. "McCann and Robb and Boucher and the others who are all agog and atwitter over Michele de Notredame and his supposed forecasts of our world troubles. Prophecy in Mike's manner is too damned easy. If you're obscure and symbolic and cryptic enough, whatever happens is bound to fit in some place with your prophecy. Take the most famous of all Nostradamic quatrains, that one about Henri II—"

His wife said, yes, she had heard several times already about how that could be made to fit the de Camp family just as well as the French royal house, and what was the new idea?

"Every man his own Nostradamus, that's my motto," he went on. "I am, personally, every bit as much a prophet as Mike ever was. And I'm going to prove it. I've just thought of the perfect tag for my debunking article."

His wife looked expectant.

"I'm going to close with an original de Camp prophecy, which will make just as much sense as any of Mike's, with a damned sight better meter and grammar. Listen:

"Pelagic young spark of the East
Shall plot to subvert the Blue Beast,
But he'll dangle on high
When the Ram's in the sky,
And the Cat shall throw dice at the feast!

"You like?"

His wife said it was a limerick, of all things, and what did it mean?

"Why not a limerick? That's the great verse form of American folk rhyme—a natural for an American prophecy. And as to what it means, how do I know? Did Mike know what he meant when he wrote 'Near to Rion and next to white wool, Tries, Taurus, Cancer, Leo, the Virgin'?

"But this I swear to: If this article sells and de Camp's Prophetic Limerick is there in print for future McCanns to study, by 2342 it will have been fulfilled as surely as any quatrain Mike ever wrote, or I lose all trust in the perverted ingenuity of the human race."

A.D. 1943:

By the time the magazine reached Sergeant Harold Marks, there was not much left in it to interest him. The Varga girls and the Hurrell photographs had gone to decorate the walls of long-abandoned outposts, and most of the cartoons had vanished, too. Little remained but text and ads, and Sergeant Marks was not profoundly concerned with what the well-dressed man in America was wearing last Christmas.

Until he had almost finished looking through it, he would have been more than willing to swap the magazine for a cigarette or even for a drag on one, but at the end he hit the de Camp article.

The sergeant's sister Madeleine was psychic. At least, that was her persistent claim, and up until she joined the WAACs nobody had been able to persuade her otherwise. Sergeant Marks had no later news from his sister than the discomforting word that she had received her commission and now outranked him, but he was willing to bet that she still spent as much time as she could spare telling her unfortunate noncoms about the wonders of Nostradamus.

It was good to see somebody tear into the

prophecy racket and rip it apart. This de Camp seemed a right guy, and his lucid attack did Sergeant Marks' heart good.

Especially the prophetic limerick. The sergeant was something of an authority on limericks. He had yet to find a man in the service whose collection topped his. But the pelagic young spark from the East tickled him even more than the unlikely offspring of the old man of Bombay or the peculiar practices of the clergy of Birmingham.

Sergeant Marks carefully tore the limerick out of the magazine and slipped it in his pocket. He'd copy it out in a V-letter to Madeleine when they managed to get in touch again.

He thumbed back over the magazine, hoping that he might have overlooked some piece of cheesecake that had escaped previous vandals. Then without warning, all hell broke loose from the jungle and Sergeant Marks forgot cheesecake and prophecy alike.

Civilian Harold Marks used to scoff at stories of heroes who captured machine-gun nests single-handed. That was before he joined the Marines and learned that practical heroism is not a mythical matter.

He still didn't know how it was done. He knew only, and that with a half-aware negligence, that he had done it. He was in the jungle, master of a green-painted machine gun, and he was alone save for a pile of unmoving things with green uniforms and yellow faces.

There were more of them coming. A green gun looks funny in your hands, but it works fine.

There were no more coming.

Toting the green killer, Sergeant Marks returned to the ambushed outpost. His throat choked when he recognized Corporal Witchett by his hairy palms. There was no face to recognize him by.

There had been few enough men here. Now there seemed to be only one. The ambush had been destroyed, but at a cost that—

Sergeant Marks hurried to where he heard the groan. He knelt down by the lieutenant and tried to catch his faint words.

"Reinforcements . . . tomorrow . . . try . . . hold on . . . up to you, Marks."

"I will, sir," the sergeant grinned, "unless they outnumber me. They might send *two* detachments."

The lieutenant smiled dimly. "Saw you . . . nest . . . fine work, Marks . . . see you get medal for—"

"Swell custom, posthumous medals," said Sergeant Marks.

A look of concern came into the officer's too sharply high-lighted eyes. "Sergeant . . . you're wounded—"

Marks looked down at his blood-blackened shirt and his eyes opened in amazement. Then the jungle began to jive to a solid boogie and his eyes closed for a long time.

When they opened again, he saw a hospital ward and muttered warm prayerful oaths of relief. So the reinforcements had showed up before another Jap detachment. He hoped the lieutenant had held out. And what the hell had happened to Boszkowicz and Corvetti and—

Funny, having Chinese nurses. Nightingales from the Celestial Kingdom. All the other patients Chinese, too. Funny. And yet they didn't look quite—

When the doctor came, there was no doubt of the situation. The teeth and the mustache and the glasses, the standard cartoon set-up. But not comical. And certainly not Chinese.

Sergeant Marks heard a strange croaking that must have been his own voice demanding to know what went on and since when did American Marines rate a pampered convalescence in a Jap hospital? He felt almost ashamed of himself. There seemed to be something like an involuntary Quislingism in enjoying these Nipponese benefits instead of sprawling dead in the jungle.

The doctor made a grin and noises and went away. He came back ushering in two men in uniform. The older one was a fierce little man with a chestful of medals. The other was young and jaunty and said, "Hi! What's clean, Marine?"

Sergeant Marks said, "What am I doing here? Don't tell me you boys are starting a home for disabled veterans?"

"Just for you, sergeant. You're teacher's pet."

"Tell teacher I'll send him a nice shiny pineapple first chance I get."

The little man with the medals asked a question, and the youth answered.

Marks grinned. "I'll bet teacher won't give you an A on that translation. You the only one here speaks English?"

"English hell," said the interpreter. "I talk American."

"O.K., you hind end of a Trojan horse. Why am I here? What's the picture? Shoot the photo to me, Moto."

The officer went off again, and not in a pleasant mood.

"We'll have cross-fire gags some other time, sergeant," the interpreter said. "Right now the colonel wants to know what this is." He handed over a bloodstained piece of paper.

Sergeant Marks' brain did nip-ups. He got the picture now, all in a flash. Somebody had found this clipping on his unconscious body, failed to interpret it, and decided it was some momentous secret inscription. He'd been nursed back to consciousness especially so that it could interpret it. And if he told the truth—

He could see in advance the dumb disbelief of his enemies. He could foresee the cool ingenuity with which they would try to wrest further statements from him. He could—

He opened his mouth and heard inspired words coming out in the voice which he was beginning to accept as his. "Oh, that? Well, I'll tell you. I'm very grateful for what you've done for me, and in return— That's our secret prophecy."

"Nuts," said the interpreter.

"I'm serious," said Sergeant Marks, and managed to look and sound so. "You didn't know that Roosevelt had his private astrologer, did you? Just like Hirohito and Hitler. We've kept it pretty secret. But this is the masterpiece of Astro the Great. We don't know what it means, but all have to carry it so we can take advantage of it if it begins to come true. We're supposed to swallow it if dying or captured; I'm afraid I slipped up there."

The interpreter said, "Do you expect me to feed the colonel a line of tripe like that?"

"But it's true. I'm just trying to save myself. I—"

The fierce little colonel burst into another tirade. The interpreter answered protestingly. The colonel insisted.

Then the nurse who had been making the next bed turned around and addressed a long speech to the colonel. Slowly his fierceness faded into a sort of mystical exaltation. He replied excitedly to the nurse, and added one short sentence to the interpreter.

As the three men left the room, the interpreter spat one epithet at Marks.

"Why, Moto!" the sergeant grinned. "Where *did* you learn that word?"

"I know rittre Engrish," the nurse explained proudly. "When interpreter won't talk, I say to kerner your story. Kerner very much preased. He send prophecy now to emperor. Emperor's star-men, they study it."

"Thanks, baby. Nice work. And what happens to my pal Peter Lorre for refusing to translate?"

"Him? Oh, they shoot him same time as you."

One less Jap, one less Marine— "Well" —Sergeant Marks forced a grin—"we're holding our own."

A.D. 1945:

The Imperial courier asked, "Has astrologer-san any prophetic discoveries that I may report today to the Son of Heaven?"

The court astrologer said, "Indeed I have, and though the word of the stars seems black to us, yet will the rays of the Rising Sun dispel that blackness. Adolf Hitler will die today. The Yankees and the British will conclude a separate peace with Germany and will concentrate their attacks upon the Greater East Asia Prosperity Sphere."

The courier smiled. "So astrologer-san also possesses a short-wave radio? Adolf Hitler has died today. The rest of your prophecy is, of course, a clever deduction from the rise of the White American party and a knowledge of the shrewdness of the German military aristocracy. But I shall report it as prophecy to the Son of Heaven. And has astrologer-san yet deciphered the American prophecy?"

"It is difficult. The court will understand that the complexities of the perverse American methods of magical calculation—"

"The Son of Heaven will understand that he needs a new astrologer, and that old astrologers know too much to remain alive." He smiled again.

The court astrologer used the same ritual dagger as his thirteen predecessors since Sergeant Marks' death.

A.D. 1951:

Adolf Hitler had reason to feel pleased with himself. His carefully faked death had deluded the United Nations into a sense of false security and enabled Germany to conclude an armistice and obtain a much-needed breathing spell. When her enemies were engaged in the final struggle in the East, it had been easy to overthrow the necessarily small army of occupation and hasten to the rescue of Japan.

Destroying Japan in the inevitable German-Japanese war that followed their joint victory had not been so easy. It had not been possible to fool the Japanese with organizations like the White American party or the British Empire League.

But it had been accomplished, and now Adolf Hitler, secure at last and already beginning to find security uncomfortable, was free to devote himself to such pleasing minor problems as the exquisitely painted tablet before him.

"I found it myself, mein Führer," explained Reinhardt Heydrich, now resurrected from that earlier fake death which had served as a test of Anglo-Saxon credulity. "It was in a hidden inner shrine in an obscure temple in Tokyo. No one has seen it save my late interpreter. I cannot understand how what is obviously a prophecy in a Japanese shrine comes to be written in English; there is doubtless some symbolic significance. The Japanese characters at the top read 'American prophecy.' The rough translation runs—"

He paraphrased the limerick.

Adolf Hitler listened, nodding slowly, and a mystical film spread over his eyes. It was as though he were listening to music.

When he spoke at last, he said: "We hold the world too securely for any more great events to happen in our days. We shall not see the fulfilment of this prophecy. But treasure it carefully. It shall be invaluable to one of my successors, even as Nostradamus was to me. For did he not write: 'The Holy Empire will come to Germany,' and again 'Near the Rhine of the Noric Alps a Great One will be born'?"

157 N.H. (A.D. 2045):

Captain Felix Schweinspitzen mopped tropical sweat from his Nordic brow and moaned, "Hang it, Anton, I was born at the wrong time."

Anton Metzger looked up from the meaningless series of letters which he had been jotting down. "We're all born into a pattern, Felix. We can't make the design ourselves."

"Not now, no. That's just what I mean. There have been times when we could. Look at Napoleon or the first Hitler. They made their own designs. And I keep feeling that in the right world I could, too. I can lead men. That's demonstrated fact. Look what I've done with the natives here in Java."

"Too much maybe. I wouldn't be surprised if the Führer was a little jealous on his inspection visit."

I can lead men, I could lead the men of the world—I feel it, I know it. But what chance have I? While he rules by virtue of the organization and the rules of succession and—"

"Would you want his job in view of all we've been hearing of the Tyrannicides?"

Captain Schweinspitzen laughed. "We destroyed Canada and America almost a century ago. What have we to fear from a little handful of desperate men?"

"Little handfuls of desperate men did great things in the death struggles of those nations. I remember my grandfather telling stories of demons called Commandos and Rangers."

"The Tyrannicides are futile. Tyrant killers indeed, when all they've accomplished so far is the death of a couple of subordinates no more important than you, Anton. Now if someone were to attempt the life of Hitler XVI himself—What are you working on there?"

Metzger smiled. "The American prophecy."

"Wotan! Why waste your time with foolish—"

"The job of being your interpreter in Dutch and Javanese is hardly an all-absorbing one, Felix. I have to have some interest. And I got a very curious lead today. I heard some natives talking about the coming inspection visit. And you know what they call the Führer?"

"No."

"They've been seeing photochromes of him in those powder-blue uniforms he's so devoted to. And they call him the Blue Beast."

Captain Schweinspitzen tore off a string of oaths. "The subversive traitors! They can't talk that way about him. I'll have them— Give me their names."

"I'm afraid I don't remember who they were. And is this precisely a consistent attitude when you were just speaking of his assassination?"

"That's different. I'm as Aryan as he is. But these natives— Oh, well. How does that traitorous nickname help you?"

"The Blue Beast is one of the personages in the prophecy. They've been speculating for a hundred years on his identity. Now there's a clue, and if I can figure out the rest—"

"How does the whole thing go?" the captain asked idly.

Metzger recited it:

"Pelagic young spark of the East
Shall plot to subvert the Blue Beast,
But he'll dangle on high
When the Ram's in the sky,
And the Cat shall throw dice at the feast!"

The captain nodded. "The English I picked up when I was Gauleiter in Des Moines seems to be good enough to handle that. Only what does *pelagic* mean?"

"That's the word that bothers me. It means 'oceanic.' Now 'oceanic young spark' doesn't make any obvious sense—if anything, it's a contradiction in terms. But it makes just as good meter as 'pelagic,' so why was the exceedingly uncommon word used instead of the obvious one? That's why I'm hunting for an anagram in it. I've been rearranging letters and I can't get anything better than—" His voice stopped dead. He stared at the captain, at his paper, and back at the captain.

"Well!" Captain Schweinspitzen barked. "What is it?"

"The best I can get," Metzger repeated, "is 'pig lace.'"

"Yes?"

"And 'pig lace,' captain, means 'Schweinspitzen.'"

The officer stared. The interpreter went on hastily, as details clicked into formation: "You are of the East, have been here in Java for years. You were a telecast operator once, weren't you? Well, 'spark'—or was it 'sparks'?—meant a wireless operator in twentieth century American dialect. 'Pelagic young spark of the East—'"

"'—shall plot to subvert the Blue Beast'," the captain continued the quotation. "In other words, Schweinspitzen, the ex-telecaster of Java, shall plot to subvert Hitler XVI." He smiled craftily to himself. "Well, Anton, we are all part of a design, aren't we? We can't very well refuse to fulfill the prophecy, can we?"

Lyman Harding wrung out his dripping garments. You didn't need clothes anyway, here in the damp heat of the jungle. But they'd need these clothes later; they were of bullet-deflecting soteron, and stealing that textile from the closely guarded plastic factory had been the most perilous step in the plot—so far.

"The natives are with us," Girdy reported to him. "They hate him and his rule over them. Call him the Blue Beast."

"If only we had planes—" Harding sighed. "Think how directly we could act instead of this swimming in from a mile offshore and lurking in jungles and—"

"We'll have planes soon enough," Girdy said confidently.

"If it all comes off according to schedule. If our other men all over the world manage to dispose of his followers according to the rule of succession. Then there'll be complete chaos in the Party, and those who still love freedom can strike."

"But ours is the biggest job." Girdy's wide ugly face was alight with pride. "When we knock off the Hitler himself— Only have you figured yet how we can crash this inspection reception?"

"I've got a rough plan—" Lyman Harding began.

Anton Metzger did not like the changes that were evident in Captain Schweinspitzen after that momentous discussion of the American prophecy.

The captain had previously seemed unusually intelligent and unusually human for the post which he held. Oh, he was given to ranting about his stifled abilities as a leader of men, but he was a friend and companion. He understood the arts, even in their neglected or forbidden aspects, and he understood people, even tolerating Metzgen when he talked in a tone that did not jibe perfectly with the tenets of the Aryan World State.

For Metzger felt his Austrian blood more keenly than his Prussian. He was a useful servant of Hitler XVI chiefly because he had been reared in the AWS and never known directly any other concepts of life. But he knew himself for a misfit and groped faintly toward something else.

He had sometimes in the past sensed a similar groping in Captain Schweinspitzen, but no more. Not since the captain had become convinced of his identity with the pelagic young spark. Now, when he saw his dream of leadership approaching fulfillment, humanity dropped away from him like an outworn robe, and the naked body beneath it was strong and beautiful and cruel and masterful.

Metzger learned little of his plot to subvert the Blue Beast. The captain retained enough of his understanding of people to know that Metzger might want the destruction of Hitler XVI, but certainly not the instating of Felix Schweinspitzen as a new and greater Hitler.

Metzger gathered only the fringes of the plot, only enough to know that the crucial moment would come at the reception and State banquet which would be the ritual high point of the inspection tour.

And then he inadvertently contributed the key element to the pelagic plot. This came about on the day that he entered the

office just in time to see the captain put a bullet coolly through the forehead of a man in the blue uniform of a personal messenger of the Führer.

Schweinspitzen showed no embarrassment at the presence of a witness. He said coldly, "He brought me bad news. This is how the great leaders of old have always rewarded such messengers."

Metzger realized now how fully the madness of leadership had come to possess the man who had once been almost his friend. Quietly he said, "What news, Felix?"

"You said that the Blue Beast might be jealous of my success here. You're a prophet yourself, Anton. He is. He has forbidden my presence at the banquet."

Metzger felt something like relief. "It's better this way, Felix. Such an attempt as you've been plotting is too dangerous. And if you must be guided by the American prophecy, remember its middle couplet:

"But he'll dangle on high
When the Ram's in the sky.

"The State hasn't executed a man by hanging for a hundred years, but the Hitler might very well reinstate the archaic punishment for a great traitor."

"Am I afraid of your prophecy? Don't be a fool." But he looked perplexed and reflective for a moment. Then he snapped his fingers. "What are the names of those two paratransport planes we use for the outlying islands?"

"The *Aries* and the *Leo*."

Captain Schweinspitzen laughed. "Very well, my dear Anton. Be sure to attend the feast. You'll see me dangling on high all right. And what is the last line of your prophecy?"

"'And the Cat shall throw dice at the feast.'"

"Throw dice? Mete out justice by lot, it might mean. That will do. And the Cat—I picked up bits of American folklore in Des Moines, Anton. See if that clue enables you to decipher your prophecy."

Felix Schweinspitzen had left the office before Anton Metzger placed the opposite bit of American folklore. Then at last he recalled the comic black figure in twentieth-century cartoons. Felix the Cat—

Metzger saw little more of the captain during the remaining few days before the banquet. Five natives were executed for the murder of the Führer's messenger and possible leaderly wrath was averted.

But Captain Schweinspitzen not only accepted the banishment from the banquet, he refused even to appear at the reception and tour, and Metzger found himself as official guide and escort to the sixteenth Hitler.

"It is dull here," the Führer protested. "Buildings of common steel and stone—no glass, no plastic. The telephone used almost exclusively without a visoscreen. Not a stereoscopic theater on the island. Old model automobiles and no moving walks . . . why, one might as well be back in the twentieth century."

"The Führer knows," Metzger explained, "why this is so. This island exists solely so that a slave population may produce raw materials for the State. There is no need for any of the refinements of civilization here; we lead the crude life of pioneers."

"It is dull," Hitler XVI repeated with a yawn.

He was littler and plumper than his pictures indicated. There was the infinite refinement of boredom on the round bland face. Nothing of the captain's dream of leadership here, nothing of whatever the magnetic power was which brought about the success of the man from whom the Aryan World State's Führers took their title of Hitler.

That title descended now in fixed ranks of party precedence, and skill in party politics is not the sole prerequisite of the leader. Metzger thought of the decadence of the later Roman emperors. There was sense in Schweinspitzen's notion of replacing this worn-out quasi-leader with the vigor of the real thing.

But was the leader-principle in itself humanly justifiable? Metzger was often glad that among the many refinements of civilization missing on the island were psychometrists; he hated to think what might happen if one of the skilled ones at home were to psych him and discover these hidden doubts.

The banquet was held out-of-doors in the warmth of a tropic night, and even outdoors it was evident that Hitler XVI found the vanity of his powder-blue uniform uncomfortably warm.

The first course, as was the traditional ritual at all formal State banquets, was an unpalatable and nameless ersatz, to remind men of what their forebears had suffered in order to establish the Aryan World State. Then followed a magnificent *rijstaafel*,

that noble fusion of unnumbered courses which was the sole survival of the one-time Dutch culture of the island.

With the *rijstaafel* Hitler XVI for the first time displayed an enthusiastic interest in his colonial outpost. He tucked it away prodigiously, with pious ejaculations of praise, while Anton Metzger hardly bothered to conceal his smile of quiet contempt.

Seeing and guiding the Führer had at last fully brought home to Metzger the loss of human dignity brought about by the Aryan World State. That man should submit to the totalitarian rule of this stupid and decadent dynasty was unthinkable—and equally unthinkable that man should tolerate the institution of just such another rule even under the fresh and vigorous aegis of a Captain Felix Schweinspitzen. Only with what the captain had called the little handfuls of desperate men lay the hope of the future. If Metzger could ever somehow establish contact with one of those handfuls—

Tyrannicide Lyman Harding set the curried chicken in front of the voracious Hitler XVI. A pinch of native poison in the chicken would have turned the trick in safety; but the tyrant needed a more open and sensational removal to arouse the world.

The carefully applied body stain made him and his fellow Tyrannicides indistinguishable from the native servants to the casual glance; and what proudly self-confident Aryan would bestow more than a casual glance on his colored slaves? But he could not quite attain the unobtrusive skilled movements of the natives. There was an American angularity to his serving, and once he was so awkward as to spill a drop of hot sauce on the neck of one of the Führer's aids.

For a moment he feared that his slip was the end of the adventure. The aid's hand rested on his automatic. Harding thought of the many stories of slaves butchered in cold blood for even less grievous offenses. But the officer finally let out a snarling laugh and said something indubitably insulting in German. Then he picked up the outsize glass of brandy that he had been swilling with his food and hurled it in the servant's face.

Harding's eyes stung with the pain of the alcohol. He bowed servilely and scurried off. The next course was the shoat stewed in coconut milk, and with that course—

Anton Metzger heard the motors of a plane passing over the open-air banquet. The Führer did not look up from his gorging. Why should he? Strict care was always taken to enforce the regulation that no armed planes could be aloft during his tour of inspection.

This could only be an unarmed transport, Metzger thought, though he wondered why it seemed to be slowing down and circling overhead. It must be the *Leo* or the *Aries*—

The *Aries!* Aries, the Ram! The prophecy—

Suddenly Anton Metzger understood the subversive plot of the pelagic young spark, Captain Schweinspitzen.

Lyman Harding checked with his eye the position of his fellows and of the natives that were helping them. All O.K. On his silver tray lay the knife—the knife that looked like any serving knife which any servant might carry. Only the keenest eye could tell the excellence of its steel or the fineness of its whetted edge.

He took a bowl of shoat from the tray and set it before an Aryan diner. Then as he looked down at the polished silver, he saw his face mirrored in the space left by that bowl. And his face was recognizably white.

The alcohol in that contemptuously thrown brandy had attacked his skin stain. So far the diners were too absorbed in the *rijstaafel* to have noticed him. But that luck could not last. He was in the middle of the tables now. It would take him at least a minute to work his way either to the Hitler's table or to the protective outer darkness. A minute. Sixty seconds, in every one of which he took the almost certain chance of being recognized for a spy, of being killed—which is not an agreeable thought even to the most venturesome—and—what was far worse—of seeing his whole plan collapse.

The success of the blows planned for today all over the world depended on the success of this venture here in destroying Hitler XVI. And the success of this venture depended absolutely on him, since each man had his duty and his was the prime one of disposing of the Führer.

The transport motor droned over the clatter of the banquet. Harding made his decision. The risks were the same whether he attempted to reach concealment or went on with his plan. He advanced toward the Hitler's table, serving out the bowls of stewed shoat as he went.

A colonel raised his eyes from his plate to call for more wine. His eyes met the white face of a brown-bodied servant. He opened his mouth.

And at that moment a half dozen shouts went up from as many tables. Men were standing and pointing up. The colonel forgot even that astonishing servant as he raised his eyes to the sky and saw the dim shapes floating down.

The blue-black parachutes were all but invisible—perceptible only as vague shapes blotting out the stars, slowly descending with the deadly quiet of doom.

There was a shrill scream of terror, though there were no women in the gathering. There were barking shots from the officers' sidearms, answered from above—futilely, at that distance and under those conditions of fire.

Then the rattle of the machine guns began.

Anton Metzger tore his eyes from what he knew must be Schweinspitzen, dangling on high while the "Ram's in the sky," and looked at the plump face of Hitler XVI, still aquiver from that terrified scream. Then he saw the unbelieving sight of a native with a gleaming knife charging at the Führer's table.

The others at the table were staring and firing aloft. Only Hitler XVI stirred by some warning of personal danger, and Metzger saw the servant's attack. Metzger's first thought was the stories of amuck. Then he saw the white face, and understood the truth even before he heard the half-lengendary cry of the Tyrannicides: "Sick the tyrants!"

Hitler XVI had drawn his automatic. He handled it with the awkwardness of a man little accustomed to firearms, but he could hardly miss the large target charging at him.

For the first time in his malcontent life, Anton Metzger became a man of action The action was simple. It consisted in seizing the Führer's arm from behind and twisting it till the automatic fell, then in holding both arms pinioned while the knife carved into the plump flesh of the Führer's throat.

The three-way battle had been furious and bloody, but its outcome was never in doubt. Schweinspitzen's paratroops were rashly too few to achieve anything. The Hitler's men might have put up a successful resistance by themselves even after their Führer's death but the disconcerting presence of two sets of enemies, one in their own uniforms, unmanned them. The Tyrannicides and the natives had won a total victory in the triangular confusion.

Now Metzger stood with Lyman Harding and surveyed the carnage. "I owe you my life," Harding said. "The soteron garments I'd planned on for protection couldn't be used with this servant-disguise scheme, and there was no other way of getting in. And the world owes you a hell of a lot more than I do."

"I owe you," Metzger said in English, "more than I could ever explain."

"But look. Maybe you can tell me something. What went on with those paratroops? They came just at the perfect time for a cover for us and I don't know as we'd have made it without them; but who were they?"

"They were an attempt at a palace revolution, led by one Captain Schweinspitzen." Metzger kept his eyes from the crumpled heap of blue-black cloth that covered the body of his one-time friend Felix. A machine gun had reached in the air and he had indeed dangled on high, a parachuting corpse.

"But it was crazy. He didn't have a chance to get away with that attack. Why did he—"

"He believed that it had been prophesied. I'm afraid it's partly my own fault for being overingenious in my interpretations. You see—" And Metzger explained about the American prophecy. "So," he concluded, "the prophecy did come true in detail, all save the last line. And it was fulfilled *because* it existed. Without that prophecy, Schweinspitzen would never have conceived such a plot."

Harding was laughing, a titanic Bunyanesque laugh that seemed disproportionate even to the paradox of the prophecy or to the nervous release following the bloody victory.

"It is a curious paradox," Metzger said. "I wonder if that is the only true way in which prophecy can function, by bringing its own fulfillment. I wonder if the author of that prophecy—"

Harding managed to stop laughing and had to wipe his eyes. "That's just it," he gasped. "The author of the prophecy. You see, friend, he was my own great-grandpappy."

"What?"

"Fact. I know that prophecy. The family managed to save some of Great-grandfather de Camp's stuff—he was a writer—from the great book-burnings and it's sort of a tradition that all of us should read it. Swell screwy stuff it is, too. But I remember the prophecy, and it's all a gag."

"A gag?"

"A joke. A hoax. Great-grandpappy wrote an article to disprove prophecy, and made his point by writing a limerick of pure nonsense so vague and cryptic that it'd be bound to be twisted into prophetic frame sometime in the course of history. And instead it's made history. In fact, it's saved history. Gosh, would this slay the old man!"

"Pure nonsense," Metzger mused, "and fulfilled in every detailed word, except for the last line." Suddenly he said, "Tyrannicides! Is that just what people call you or what you really call yourselves?"

"Well, we mostly call us the Tyros, just for the hell of it. But the full name is Canadian-American Tyrannicides — sometimes just the initials—Oh!"

Comprehension lit his face as he followed Metzger's eyes. In the shambles of the banquet a couple of his boys had started a crap game.

The C. A. T. were throwing dice at the feast.

Lyman Harding whistled. "Great-grandpappy didn't know his own strength."

NOTE: The de Camp "prophecy" is an actual one; see *Esquire*, December, 1942. The lines quoted from Nostradamus are, of course, also actual; those cited by Hitler are from the Nazi propaganda pamphlet, "Nostradamus Prophecies About The War," by Norab.

COMPETITION

By E. M. HULL

Artur Blord had a very delicate situation on his hands. His enemies didn't really hate him; they just distrusted his abilities, and thought sudden death and public ridicule would make a good cure. They forced a deal from him—they thought.

THE four men in the idling plane sat quiet now, watching.

The debarkation of the space freighter from Earth was in full swing. People were packing out onto the landing platforms, carrying suitcases. One of the men in the airabout sneered:

"These immigrant freighters certainly pack them in."

The big man said, "That's why they call them freighters; they handle human cargoes—"

"Look, Mr. Delaney," a third man cut in excitedly. "There's a girl, screamer if I ever saw one."

The big man was silent; his sleet-gray eyes narrowed on the girl who had paused twenty feet away. She had dark-brown hair, a thin but determined face and a firm, lithe body. She carried one small suitcase.

"She is pretty and does stand out," he admitted cautiously. His gaze followed the girl, as she turned and walked slowly toward the distant exit. Abruptly, he nodded.

"She'll do. Pick her up and bring her to my apartment."

He climbed out of the plane, watched it glide off after the girl, then stepped into a private speedster that instantly hurtled off into the sky.

Evana Travis walked along the Pedestrian Way toward the exit not even vaguely aware of the machineful of men that followed her. She was trembling a little from the excitement of the landing, but her mind was still hard on the trip that had now ended.

She hadn't, when she came right down to it, utterly hadn't expected so much bigness. Figures never had had much meaning

for her; and growing up in a world where people said, "Why, that's only a thousand light-years!"—somehow that had made of space an area as limited in a different way as Earth.

The very name—Ridge Stars—had a cozy sound. The picture of the system in her mind was of an intimately related group of suns pouring a veritable blaze of light into the surrounding heavens. Immigration-appeal folders did nothing to discourage her opinion.

The first shock came on the twelfth day out when the loud-speakers blared that the Ridge was now visible to the naked eye.

It was, all two hundred light-years of it, spread across the heavens. There were one hundred ninety-four suns in the group, seventy of them as large or larger than Sol —at least so the announcer shouted. Evana saw only pin points of light in a darkness the intensity of which was but faintly relieved by a sprinkling of more remote stars.

Grudgingly, she recognized that there *was* a resemblance to a ridge—and then all thought of the physical aspect of the stars ended, as the announcer said:

"—a vote will shortly be taken as to which planet of which sun every passenger of this ship will be landed on. The majority will decide and all must abide by the decision. Good-by for now."

Literally, her mind reeled. Then she was fighting through the packed corridors and decks. She reached the captain's cabin, and began her protest even as the door was banging shut behind her:

"What kind of outrage is this? I'm going to my sister's on the third planet of the Doridora sun. That's what I bought my ticket for, and that's where I'm going, vote or no vote."

"Don't be such an innocent," said the young man who sat behind the big desk in one corner of the small room.

Evana stared at him. "What do you mean?"

His grinning face mocked her. He had blue eyes and a space-tanned face, and he looked about thirty. He said:

"You're in space now, sister, far from the rigid laws of Earth. Where you're going atomic engineering is building a man-controlled universe, fortunes are made and lost every day, people die violently every hour, and the word of the big operators is the final authority."

He stopped. He stared at Evana sardonically. He said:

"It's a game, beautiful. That's what you've been caught up in. All the improvements in working conditions on Earth and other static planets during the past fifty years were designed to prevent wholesale immigration to the newer worlds of the Galaxy. The governments of the Ridge Star planets and other star groups have had to develop cunning counterants, including cutting the price of the trip to less than cost. That explains why it's impossible to do anything but dump each shipload *en masse*. This cargo, for instance, is headed for Delfi II."

"But," Evana gasped, "there's going to be a ballot taken as to which planet we land on. The announcer said—"

The young man roared with laughter. "Oh, sure." The mirth faded from his face. "And it's going to be all fair and square, too—pictures of each planet, short educational talks, an elimination vote every time four planets have been discussed—absolutely straight merit will decide the issue. But Delfi II will be selected because it's Delfi's turn, and so we're showing that planet to advantage, while the seamier sides of other planets get top billing this trip. Simple, eh?"

As Evana stood there too stunned to speak, he went on, "Delfi's a grand place: Endless jobs for everybody. Its capital city, Suderea, has four million population, with ninety buildings of more than a hundred stories—oceans, rivers, mountains, a grand climate— Oh, it's a great world!

"You'll hardly believe me, but there are men out in the Ridge Stars whose names are synonyms for money or power; and the greatest of them all is a young Norwegian-Englishman named Artur Blord. He's a by-word. You'll hear his name in every town and village. In less than ten years he's made an astronomical fortune by outsmarting the big shots themselves. They exploit men; he exploits *them*. Why—"

"But you don't understand"—she felt desperate—"my sister expects me!"

His answer was a shrug. "Look, lady, the Ridge Star governments have offered a prize for the invention of an interstellar drive that won't infringe existing Earth patents, but until that prize is won the only way you'll ever get off Delfi II would be to get in good with some private owner of a spaceship. There just isn't any public transport.

"And now"—he stood up—"I'm afraid you'll have to stay here in my cabin until that ballot has been taken. It's my policy to be honest with those who complain, but

it means restrictions for them. Don't get alarmed! I have no personal designs on you, even though you wouldn't have a single comeback if I did have. But a man like myself with seventeen wives on as many planets, thirty-eight kids and a soft heart can't afford to get mixed up with any more women."

He went out; the door clicked behind him—and now seven days later here was the unwanted world of Delfi II.

Evana paused uncertainly, at the great gate of the landing field. For a moment, as she stood there, staring down at the city below and the blue sheen of the sea beyond, she felt constricted, cold with dread.

There was a sound behind her. Rough hands smashed across her mouth, grabbed her arms. She was lifted bodily through a door into a wingless plane—that curled up into the air like smoke rising from a chimney.

Masked men—how heavy they were! Their very weight resisted her feeble efforts to claw free. She felt the slight bump as the plane landed. Then she was in a room, falling toward a couch.

She had not the faintest idea whether she had been flung down, or had collapsed. But lying down made things easier. The agony of exhaustion faded. The salty taste in her mouth, product of her terrible struggling, began to go away. Her vision came slowly back into focus.

She saw that she was in a magnificently furnished living room and—with a gasp Evana clawed to a sitting position—standing a dozen feet away, staring at her, was a powerful-looking man wearing a mask.

"Ah," said the man, "coming back to life, are you? Fine."

He moved in a leisurely fashion toward a table which stood against one wall. There were liquor bottles on it, glasses and other odds and ends. He looked over his shoulder; and Evana was aware of hard gray eyes peering at her from the mask slits.

"What'll you have, baby?" he said.

It was an abrupt recognition of the kind of mask he wore that throttled her scream in her throat. There was the exact bulge at the mouth that she had seen so often in movies, the bulge that was the machine which disguised the wearer's voice.

The reality of a voice-dissolver mask was so unreal that a wild laughter gurgled from Evana's lips. She stopped the laughter as she realized the hysteria in it, and found her voice.

"I want to know the meaning of this!" She gulped. "I'm sure there must be some mistake. I—"

The big man swung around on her. "Look, kid, quit babbling. There's been no mistake. I picked you up because you're a pretty and intelligent-looking girl. You're going to make a thousand stellors for yourself, and you're going to make it whether you like it or not. Now, stop looking like a scared fool."

Evana tried to speak—and couldn't. It took a long moment to realize why: Relief! Relief so tremendous that it hurt deep down like a thing badly swallowed. Whatever was here, it wasn't death.

The bottom came back into her world; and then the man was speaking again, saying:

"What do you know of the Ridge Stars?"

She stared blankly. "Nothing."

"Good." He loomed above her, his eyes gleaming with satisfaction. He went on. "What was your occupation on Earth?"

"I was a mechanical-filing-system operator."

"Oh!" His tone held disappointment in it. "Well, it doesn't matter," he said finally. "The employment agency will put an educator on you, and make you into a passable private secretary in one hour."

It was like listening to a code message without knowing the key. Helplessness surged through her; and she had a sudden, vivid picture of herself sitting here in this room three thousand light-years from Earth *minutes* after her landing, with a masked man mouthing meaningless words at her.

Abruptly, there was no doubt at all that this was what the stories back on Earth had meant, the stories that said that on the far planets the frontiers extended right into the biggest of the cities. The crude kidnaping of her from an interstellar landing field couldn't be anything but frontier.

Her mind spun to a halt; and she saw that the man was fumbling in his pocket. He drew out a small white card. He said:

"Here's the name of your hotel. As soon as you're registered, go to the Fair Play Employment Agency—I've written the address on the back of the card—and they'll take care of you."

Evana took the card blankly, stuffed it unread into her purse. With widened eyes, she watched the man, as he picked up a small package from among the bottles on the table. She took the package with limp

fingers when he held it out, heard him say:

"Put this in your purse, too. There's a note inside that explains everything you need to know. Don't be too shocked. Remember, there's a thousand stellors in it for you, if everything goes smoothly."

It didn't seem possible. It didn't seem reasonable. The man couldn't be such a fool as to let her walk out of here now, out of this apartment, trusting her to do as he wanted after she had gone out into the obscuring labyrinth of a vast city. And yet—

"Two more things," the man said in a silky tone, "and then you can leave. First, have you ever heard of seven-day poison?"

He leaned forward a little as he spoke the words; there was an intensity in his manner that, more even than his words, brought a curdling chill. She gasped, "It's the poison that feeds on the blood; and on the seventh day undergoes a chemical change that—"

She saw the syringe in his hand then, and with a thin scream leaped to her feet. The man yelled:

"Grab her!"

She had forgotten the other men. They held her as the needle stabbed into her left leg above the knee.

The needle withdrew; the men let her go; and she half-fell, half-sank to the floor from sheer reaction. She sat there, nursing, a sob in her throat, as the man said:

"The beauty of that poison is that it can be made like a lock pattern, in many thousands of slight variations—but the only antidote must have as its base a dose of the original poison, which as you can see is in my possession.

"Now, don't get hysterical." His tone was brutal. "I'll make up the antidote, and it'll be here after you've accomplished what I want."

"But I don't know where 'here' is!" Evana cried desperately. "Suppose something happens to you—"

"The second thing," said her tormentor curtly, "is another kind of precaution. It's just possible that several days may pass before you will find the opportunity to accomplish my purpose, and that in the meantime the man whose secretary you are to become may want you to be his mistress. Now, it's quite obvious we can't have any prissy scruples on your part so— *Hold her!*"

The second needle stabbed painfully into her arm just above the elbow. Above her, the man said:

"O.K., take her out, drop her off near the hotel!"

When the door had closed behind Evana, Delaney slowly took off his mask. He stood for a moment then, a dark brooding figure of a man. Gradually, his heavy face wreathed into a grim smile. He picked up an eldophone, and said:

"Get me the president of the J. H. Gorder Atomic Power Co. on the planet Fasser IV. Tell him Delaney's calling."

"One moment, sir," the operator trilled.

A minute passed, then a click sounded; and a very clear, strong voice said:

"Gorder speaking. What's on your mind, Delaney?"

"All the initial moves against Artur Blord are now taken," Delaney said. "Tell the others they can start arriving tomorrow morning at the Castle of Pleasure, and advise the Skal *thing* to prepare the torture chambers. Good-by."

Evana Travis read the letter that was in the package:

By the time you read this, you will have opened the package I gave you. You will have noted that the package contains: (1) a cigarette case with cigarettes in it; (2) a necklace with a watchlike pendant; (3) a package of white pills; (4) a V-shaped copper device; (5) a syringe.

The cigarettes are doped. If circumstances permit, you will try to give one of them to the man who will be your employer beginning tomorrow. The circumstances, however, must be that you and he are alone, and that he is not suspicious of you. The case ejects two cigarettes at a time; the outer one is doped, the inner one is not, always.

The white pills constitute a second line of attack. They can be used to drug such things as water, coffee, liquor; also they crumble easily and can be sprinkled over meat sandwiches, giving the appearance of salt.

The pendant is a radio device. As soon as Artur Blord, your future employer, is unconscious, unloosen the screw at the bottom and press the tiny bulb in the center. This will advise my men that you have taken the first step toward the accomplishment of our joint purpose.

The V-shaped copper device is designed to short-circuit the alarm system which Mr. Blord has installed on the top floor of his headquarters, which is located at 686 Financial Avenue. In order to employ this device properly it is necessary to understand the arrangement of rooms in Mr. Blord's penthouse.

The penthouse is divided into four main sections: the office, two apartments and a roof garden. The office is made up of three rooms, an anteroom, secretary's room and Mr. Blord's private office. From Mr. Blord's office a door leads to his personal eight-room apartment.

From the secretary's office there is an entrance to the other apartment, a small, four-room affair. This is where you will live, and

I might say that the intimate implicaions of the arrangement are not misleading. Any unwillingness you may feel on the subject will be incentive to an early successful conclusion of your mission. The greater danger from the poison should, however, restrain you from inopportune action.

Both apartments have French doors which open onto the roof garden; and it is beside the French door of Mr. Blord's apartment that you will find an ornate metal instrument with a slit in it. Slide the V-shaped device into this slit, point first, until the two translucent ends of the V light up.

Now, press the bulb of the pendant again. My men will arrive within a few minutes. You must accompany them if you want your antidote and your reward. Afterward, I will transport you to any of the Ridge Star planets you desire. Obviously, for your own safety, you cannot remain on Delfi II.

It is not necessary for you to know all the reasons for my actions. Suffice to say that Mr. Blord's supercleverness has at last aroused the ire of the men who are actually building the Ridge Star civilization as distinct from Blord's trick methods of getting a share of the profits.

Item No. 5 in this package, the syringe, contains Nonchalant, a dose of which taken tomorrow morning will steady your nerves, keep color in your cheeks, no matter how great your inner nervousness. I advise you to take it every morning until you have accomplished your purpose.

As soon as you have read this letter, go to the Fair Play Employment Agency, whose address is on the card I gave you. I warn you most earnestly there is no time to waste. Tomorrow the seven-day poison will only have six days to go. You've got to do what I want —or die!

She slept badly. She did remember in the morning to inject a dose of Nonchalant into the upper part of her arm. But through all the actions and thoughts and memories that flooded her mind ran one dominant strain of terror:

She had to do what the masked man wanted, with utter will, with utter singleness of purpose. There *wasn't* any alternative.

The morning streets were packed, long wide boulevards of rushing human masses. Overhead streamed a countless swarm of airabouts. Number 686 Financial Avenue was a shining metal shaft of a building. It was narrow at the top, but at the bottom it spread over nine square blocks.

Great avenues plowed through its base. Plane shafts crisscrossed its upper stories; and at about the fortieth story was a sign that shone in the sun:

ARTUR BLORD HOLDING CO., LTD.

Far back in Evana's mind was the astounded thought that sure *she* wouldn't be hired as secretary by a man who must have thousands of employees craving promotion to such a high position.

But the girl at the reception desk inside the first main entrance stared enviously at her agency card, and said:

"Go straight up to the one hundred ninetieth floor. I'll phone up to Mr. Magrusson."

And at the one hundred ninetieth floor, a plump, middle-aged man was waiting in the hallway. He rubbed his hands together unctuously.

"I must verify one thing," he said. "You did arrive yesterday on that freighter from Earth? And this is your first job, not only on Delfi, but on any planet other than Earth?"

So it was her recent Earth origin that gave her such a startling preference. Evana drew a deep breath. "I swear it!" she said.

The man smiled at her, his pale-blue eyes watering. "Good. We'll check that thoroughly, of course. But now, go straight up to the penthouse floor, and make yourself at home. Mr. Blord is expected shortly. Until he comes, you may familiarize yourself with the room arrangements. Everything on that floor is in your charge as of this moment. You may examine anything you please that isn't locked, and call me for any information you may require."

He went off down the hall and disappeared through a door that banged.

The silence of being alone brought no peace. Having an entire floor to herself only made her thoughts the more vivid; their dark continuity suffered neither the restraint of interruption nor the easement of hope.

All normal reaction was overshadowed by the menacing words Magrusson had spoken: "Mr. Blord is expected shortly."

The strain of that had no relation to anything she had ever endured.

Exploration did provide a brief surcease. But even there her preknowledge of the room arrangements canceled the full effect. For the description in the letter was exact. Seeing the reality simply filled in details.

Her office was a large den-like room with books, a filing system, a desk equipped with automatic Recorders, and there were several mechanical contrivances scattered along the walls that she barely glanced at.

Evana made a swift circuit of the private

office beyond. It was a larger version of the secretary's room, but without the filing system. She did not go into the eight-room apartment of Artur Blord, simply glanced in, long enough to see the green foliage of the roof garden through the living-room windows.

The shaky thought came that she ought to make sure there was such an energy device to cut the alarm system as the letter had stated. But—*Mr. Blord is expected shortly.*

She withdrew to the secretary's office. Slowly, her nerve crept back, but she made no immediate attempt at further exploration. She began an elaborate examination of the mechanical filing system, but it seemed to yield nothing except detailed information about the geography, in the science sense of the word, of hundreds of planets.

She found herself frowning over the facts that came out, myriad facts about metals, forests, gems, valuable soils and estimates of value that seemed to have no relation to the money estimates that were also given. There was a field of chromium on the planet Tanchion IV, value: one hundred billion stellors; value: "Just plain slogging. Let somebody else do it all."

The two-value system extended everywhere. For a forest on Tragona VII, the first value was: All treasure wood; priceless. The second valuation said: Dennis Kray is operator. Hard, cruel, brilliant. Should be interesting if I ever get around to it."

Her appetite and her watch registered two o'clock simultaneously on her startled consciousness. The hunger was distracting, a pressing force that grew with the thought of it. Twice, she started toward the door that led to the four-room apartment—*her* apartment now—and each time stopped herself with a shudder of repulsion that she couldn't explain immediately.

Gradually, she realized what it was. There would be food all right in the kitchen of that apartment, but there would also be reminders of its previous occupant, the last secretary-mistress who was now gone into some unexplained discard. She *couldn't* go into that room.

Phone Magrusson, she thought, and shivered a negation because—suppose the plump creature tried to forestall his boss, and made a pass at her. Her enslaved brain would instantly put her at his mercy.

So long as the effect of the drug lasted she was any man's woman.

It was three o'clock before she recognized the fury of her thoughts for the madness it was—drew herself willfully back from the dark abyss, and went into the apartment.

It was a woman's living room that greeted her eyes and a woman's bedroom. Pastel colors made a muted pattern of gorgeousness. Everywhere were frills, knicknacks, fluffy comforts, extras from store departments that men would never think of visiting.

And one thing was overwhelmingly clear: It had been furnished without regard for money. After she had satisfied the first ravening impulses of her hunger, Evana sat frowning at the place. She would change the curtains, she thought, and the horrible, modern bed in the bedroom would go out. She had always dreamed of having a really costly canopied four poster and—

She caught her mind in its gyrations—and sat appalled. Shame came, then weariness. She thought at last hopelessly: What an incredible organ the human brain was. Given time, it accepted anything.

She stood up, and it was then for the first time that she saw the photograph. It was standing on the mantelpiece of the atomic fireplace; and she knew instantly that she was looking at the eidolon of Artur Blord.

It was the fine, sensitive countenance of a man of about thirty. If there had ever been Norwegian blood in his racial stock, it didn't show now. The lean face with its thin, aristocratic nose, its strong chin and firm lips was English even to the curve of the cheeks, the tilt of the eyebrows.

His appearance disturbed her; not that it could make any difference. She *had* to carry out her purpose—but her mind went back to what the captain of the space freighter had said about the big financial and industrial operators in this part of the Galaxy. Strange to think the man had even mentioned Artur Blord as the greatest of them all because—what was it the commander had said?—the others exploited men, and Blord exploited *them.*

She must have slept for she wakened with a start, and saw that it was pitch dark. Brief panic came, and ended as, through the living-room windows, she saw a great moon come out from behind a dark cloud; its gleam poured through the glass and suffused the room with pale beauty.

She went to the windows and stared up at it, a globe of light ten times as big as

Earth's satellite. Memory came that the educational talks on the space freighter had proved it wasn't a moon at all, but a dead companion planet as big as Delfi II; and that once, long before man came, there had been life on it—of which obscene remnants remained.

Evana's mind withdrew slowly from the moon, came back to her own situation. Funny how she had wakened with such a jerk as if—

Bzzzz! The sound made her jump. And then she stood as stiff as stone as a strong, clear man's voice said from a mechanical:

"Miss Travis, didn't you hear my first ring? I'm calling from my office, and I'd like you to come here as soon as you can."

"I," Artur Blord was saying an hour later, "like new cities, new planets. They're soulless. They have no culture, no institutions with hardening of the arteries, nobody going around yelling for prohibition of this, that and the other. If a man's got a religion —and who hasn't?—he's not scheming to force it down somebody else's throat— Just a minute, here's something. Grab your recorder! Get this tight. It's for your private information!"

Evana grabbed. For an hour she had felt herself the center of a cyclone. A dozen times already she had feverishly manipulated her recorder to take dictation at a breath-taking speed. Her new employer dictated as he talked, apparently without thought of—she made the mental note—discretion.

For minutes on end, utterly without restraint, he had discussed vast projects on which he was engaged, switching from one business to another with bewildering rapidity; and always the only qualification was: "This is for your private information!"

He said now: "It's just a small note this time. Always spell out the name of our company in small letters, but put the word 'limited' in capitals. There have been some darned funny court rulings on that limited business on the Ridge Star planets. For instance, once it was held that using small letters made the word 'limited' appear insignificant beside a really grand sounding company name. Abbreviating it puts you out of court so fast you won't even know what hit your bank roll. There's some people will tell you that this is an age of science, but they're wrong—"

It took a moment for Evana to realize that he had changed the subject. She blinked, then adjusted, as Blord rambled on at speed:

"They're wrong because the great developments today are not in science, but in the use of discovered science. People are constantly amazed that I have no science degrees. I'm really the lucky one. I couldn't tell you the electronic structure of more than half a dozen atomettes, or the composition of half a dozen chemical compounds. But I know something far better than that: I know what those things do, and what their relation is to human beings and human progress. I consider myself a sort of super-co-ordinator."

It was his boasting that ended all her fear. There was, of course, the possibility that he was talking about himself and his merits in a perfectly objective fashion, and it even seemed probable that he'd be nice in a conceited sort of way if she ever got to know him. But the weights that were on her mind didn't leave room for immediate interest in any man or woman.

There was only her necessary purpose. And, thank God, he was utterly guileless and unsuspicious. In a minute now, she'd bring out her cigarettes and—what was he saying? Cigarettes! Would she have a cigarette?

Evana felt briefly startled; then: "I have my own, thank you," she said.

On Blord's desk the needle attached to the chair in which the girl sat was jumping like a full-grown Yadr. Doped cigarettes, he thought cynically. And to think he'd been fishing around for an hour expecting something infinitely more subtle.

He had known the moment the girl entered his office that something was wrong. All the thousands of hours he had spent training himself to be what he was concentrated into the first glance he gave her, and revealed that she was mentally nervous without any of the physical by-products. That meant—dosed with Nonchalant at a hundred stellors a gram. Would an immigrant have that kind of money? Not normally.

The rest was merely a matter of trying to find out who was behind her. And yet all the names he mentioned scarcely stirred the needle. Either she didn't know—or the time had come for more direct action.

"Earth cigarettes;" he said eagerly. "Would you mind letting me have one? I sometimes long for them."

He walked around his desk, over to her. The girl manipulated the ejector and

brought forth two cigarettes. She took the inner one, then held the other out to him. He took it without question.

She accepted the light he offered. He walked back to his chair as if forgetting his own cigarette, and sat idly holding it between his fingers. The needle, he saw grimly, was hovering around its zenith.

He smiled finally, put the cigarette to his lips, picked up the lighter, stared for a moment at its flame—and with his foot pressed the lever that activated the energy of the chair in which the girl sat.

She crumpled like a child falling to sleep.

"—listen, Doc," he was saying into his phone a few minutes later, "I know it's past two, but I want you up here immediately. I've got a girl whom I want examined physically and mentally, the full hypnotism treatment if necessary. I want her in such a keyed-up condition that she'll be able to look at pictorial records of all the big operators I have had anything to do with the past year, and be able to recognize them even if she only saw them previously with masks on. I've got to find out who's gunning for me. . . You're coming? O.K. Make it fast."

It took about an hour for the tests, but at last the picture came clear. Doc Gregg dimmed the strong lights that had blazed for so long at the girl's unconscious body; and Blord staring silently, savagely, down at her thought:

"She looks like a tired youngster caught by weariness far from her bed." He laughed finally, curtly.

"Really," he said, "I suppose I have no business getting het up. There just isn't any way of stopping the use of sex dope and the seven-day poison; they fit in too perfectly with the lusts of men. And in a universe of a billion planets who can ever find the underground factories where the damned brews are turned out?"

He saw that the old man was staring at him thoughtfully. Doc Gregg said:

"Why don't you try hiring men secretaries?"

Blord shook his head. "Men who come to the Ridge Stars are too ambitious to be good employees of anybody. I've had two as secretaries. A fellow called Grierson who sold information about me to the Munar I mining people. The money he got he used to start himself up as an operator on one of the Gildal planets. The other man couldn't bear the thought of all the money I was making, and tried to shoot me.

"You see," he went on, frowning, "men regard themselves as my competitors; women do not. I've had women angry with me because it never even occurred to me to marry them. But no sensitive, intelligent woman—and Magrusson hires no others—has ever tried to do me damage. That may be a callous way of looking at it, but it's the truth."

His dark gaze played over the still form of Evana. "This is the first case of a girl being foisted on me with criminal intent. But it merely proves that my habit of hiring only secretaries fresh from Earth, because of their ingrained sense of loyalty, has been found out, and that I'd better investigate the powers behind the Fair Play Employment Agency."

He broke off, smiled grimly. "So it's Delaney, Gorder, Dallans, Cansy, Neek and, I have no doubt, the rest of the ninety-four competitors for the prize being offered for a new space drive, who are behind this attack. I knew I'd shock them when I entered the competition two weeks ago. After all the money they've spent on research, to have somebody enter who has a reputation for never losing—but I can say honestly this time my conscience is clear. I'm doing it entirely for the good of the Ridge Stars. Well"—he smiled again, wryly—"almost entirely."

"What's the dope on that space drive, anyway?" Doc Gregg said.

"My old infallible method," Blord laughed. "I played bullish on human genius, and bear on human nature. You may not believe this, but my research laboratories didn't do a stroke of work prior to a month or so ago. And yet we've got the winning drive."

He saw that the old man was staring at him from shrewd gray eyes. "I'm not going to guess what you're up to, young man. But it looks as if you've cut into a hornet's nest. What about this kid? She's got five days to live; any bets that they try to save her if she doesn't deliver the goods?"

"I wouldn't even bet they'd save her if she did," Blord snapped. He scowled, said finally, "Damn it, I can't carry the world on my shoulders. I feel sorry for her, but her only hope is for me to let my capture go through.

"The worst of it is, they'll be waiting at the impregnable Castle of Pleasure on Delfi I. It's the only place where a bunch like that would trust themselves together. If I thought there was one chance in five, I

might risk being the guest of the Skal *thing*, but not—"

He stopped. His eyes narrowed with the sudden thought that came. He grew aware finally that the old medico was looking at him with a grin. Doc Gregg said softly:

"What do you want me to do, son— set everything up as it was?"

"Yes," said Blord slowly, "yes. It's that damned instinct of mine for playing with fire. To begin with, I'll need some preconditioning—"

Evana had a sense of faintness; that was all. Then she straightened; and there was Artur Blord still lighting the cigarette. She stared at him in fascination as he took a deep puff with evident enjoyment. She cringed inwardly as a startled expression leaped into his eyes.

He half-slid, half-fell to the floor and lay there face up, the ceiling light glowing down on his closed eyes. In that quiet repose, the noble lines of his countenance seemed accentuated; all the sillier aspects of him, the volubility, the immense and casual indiscretions, the braggadocio faded and were lost in that pure physical tranquillity.

He looked like Adonis struck down by the killer boar, like a man already dead, needing only a coffin to seal him forever from life.

It was funny, Evana thought shakily, staring down at him, how she had really known all the time that she couldn't possibly ever sacrifice anyone else to save herself. Funny how she had known, too, deep in her mind, that only the ultimate moment would bring her face to face with the reality.

Stunned, she sank down in her chair, and buried her face in her hands. After ten minutes Artur Blord stood up from the floor, and said gently:

"Thanks, Miss Travis. Your action in a crisis makes me very glad I decided to try to save you. But now, you've got to go through with it. Listen—"

It was about seven minutes later that Delaney's men landed, and carried Blord aboard the spaceship. The girl went along without a word.

Blord, lying on a narrow bunk, felt the brief strain as the machine launched upward toward Delfi I.

The dark Castle of Pleasure stood on the Mountain of Eternal Night on the dead moon that was the companion planet of Delfi II. Remnant of a forgotten civilization, its scores of towers pierced the heavens like gigantic swords. No man had ever delved into all its labyrinthine depths, for men entered that antique place only by permission of the one living relict of its long-dead builders, by permission of the Skal *thing*.

And it wasn't just because men were being polite, either, Blord remembered grimly. Several secret attempts had been made by Ridge Star governments to smash the structure, to end a particularly hideous form of white-slave traffic. But atomic energy washed from the alien towers like water spraying over steel; the great doors remained impervious to energy blows of a billion horsepower; and patrol ships, commissioned to prevent orgy hunters from seeking the Castle's unnatural pleasures, had a habit of disappearing, never to be heard from again.

And long ago the Skal *thing* had let it be known that the castle was a safe meeting place, at a price, for men who couldn't otherwise trust themselves together. The great operators of the Ridge Stars held cautious test meetings and—

The ship was slowing. Blord grew tense as, somewhere ahead and outside, there was a rattle of metal, a dull roar that ended as swiftly as it began. The ship moved forward, then stopped again. The rattle of metal sounded once more, vibrantly, behind the ship this time.

They were, Blord thought tensely, inside the Castle; and he was committed irrevocably. He lay, eyes closed as tight as ever, but his body was quivering now. He hadn't long to wait.

Something, a strange, slimy something slithered against his mind. He had expected it; the stories he had heard had even described what it was like, this mind reading by the Skal *thing*—but the actuality was stunning.

He lay struggling to suppress his horror, and keep his mind quiet, as a visualization transferred from the *thing* to him, a visualization of a long, scaly, reptile body crouching in some nether darkness, peering into his brain with a glee that had no human counterpart—the Skal projecting an image of itself.

And the picture clung; the reptilian mind studied him, and finally sent a caressing, steely thought:

"You puzzle me, Artur Blord, for you are not in mental night, as you pretend. Yet you have come to my old abode, from which none can escape unless my clients will it. I shall watch the unfolding of the plan in your mind, and shall not betray it. But beware! No force of yours, whether by im-

pulse of the agony of the moment or deep-seated will shall prevail."

Blord made an intense effort, sent a thought straight at that nightmare image:

"I'll pay you double, treble, what they are paying, if you help me in a crisis."

Hideous laughter billowed soundlessly in his mind, and finally a satirical thought:

"Would you seduce the honor of my house? Know then that today and until further notice the chamber of torture and all its services belong to those who have it. Such is my code. So it shall be ever."

Blord snarled, "Go to hell, you *damned* thing."

Almost, he said it aloud. But the mind, the image, was withdrawing, still giving vent to its unnatural laughter. Simultaneously—and that was what stopped his words—hands grabbed him out of the bunk. A voice said:

"Lay him on the gravitor roller. Tell Travis she's got to stay aboard. The boss is going to keep her for a while as his girl friend."

There was a hiss of air locks opening, then the gravitor began to move. It seemed to be rolling along a glass-smooth floor. The pressure of light on Blord's eyelids shadowed noticeably; very carefully, and for the first time, he parted them ever so slightly.

He was in a dim tunnel gliding along faster than he had thought. A gleamy roof slid by, a dully lighted surface that seemed to emit a reflection of some remoter light rather than itself being a source.

Abruptly, the tunnel widened, opened up into a large round room. Blord had a swift picture of men shapes in semi-darkness. The next instant the gravitor slowed; as it pulled to a stop, a man's ironic voice said somewhere out of the darkness:

"Ah, our guest has arrived!"

Then: "Waken him!"

Blord sat up. He had no desire to have the unpleasant revival drug injected into his system. These doped cigarettes were not expected to have a lasting effect, so his return to consciousness should not cause too much suspicion. A few doubts, however, wouldn't matter.

He peered around him; then, "Good God!" he said.

He mustn't overdo his surprise, he thought. A little frank bewilderment; and then—

He saw for the first time that a radium bulb, turned dead slow, lay on or protruded from the middle of the floor. A ghostly luminescence shed from it; and it was by that dim radiance that the blobs of men were visible.

The masks the men wore added an inhuman quality to the scene, that ended as the shape that had already spoken said:

"I don't think we need delay, now that our guest is recovered. We are all busy men; and even the subtle joys of the Castle of Pleasure cannot long hold our various attentions.

"As you know, when the Galactic Co., believing its space drive patents made its position invincible, asked prohibitive rates and impossible preliminary fees to start an organized passenger and transport service in the Ridge Star system, our governments announced an open competition.

"They had purchased local rights to a drive vastly inferior to the superb Galactic drive, and asked competitors to put their research staffs to the task of improving it. All improvements were guaranteed to the companies that made them and, in the event of duplication, an equitable adjustment was promised."

Now, Blord thought, now! "Pardon me," he said in an intense voice, "but has anyone developed a drive that's as much as one quarter as fast as the Galactic? If not, then every person in this meeting is cutting his financial throat."

"What do you mean?" said a voice.

"Never mind what he means!" roared the man who was standing. "Can't you see he's trying to start us arguing?"

"I mean," Blord cut in swiftly, "that a property pays according to the speed with which produced goods are transferred to market. The only reason I entered the contest at all was when I heard of some of the ridiculously low speeds that—"

"SHUT UP!"

Blord shrugged, and smiled savagely. He had put over his first point. It was one that had undoubtedly occurred previously to them all, but it could stand stressing. The speaker was continuing:

"Two weeks ago, with a great fanfare, a very flourish of publicity, Artur Blord entered the competition. What had been a serious and expensive business enterprise became a circus. Such is the fantastic reputation of this man that the ninety-four companies which had spent billions of stellors on research were instantly laughingstocks, pitied by newspaper editorials, butts for fools, comedians, pranksters. And there is, of course, no doubt that Blord, knowing his fame, knew also that he could not afford

a failure. Therefore, we assumed that he had the prize-winning drive; and, through the Skal, someone called the first meeting, where a plan was agreed upon, and I was selected by lot to carry it out.

"Our purpose is to obtain from Mr. Blord the secret of his drive, and to have him sign over to us all rights to his ship—"

"Is it possible," Blord marveled, "that the great individualistic operators of the Ridge Stars have at last agreed to co-operate, even if it is only a division of spoils that is involved? However, I'm sorry, you're all too late."

"What do you mean?"

"I have already assigned my rights to the Delfi Government, to take effect in the event that I do not turn up at the contest, with the stipulation that a public utility be formed. As for getting the secret out of me, that's impossible. Purely by accident I had myself counter-hypnotized today, and by some odd coincidence it was about this very matter. However—"

"WHAT?"

The shout was followed by a dead silence that developed into a restless shuffling of bodies. At last, however, a voice said softly:

"At least we can still kill him. At least we can prevent him from being a damned nuisance to us in the future."

Here, beyond doubt, was death, unless—

Blord climbed slowly down from the gravitor. It struck him for the first time as his feet touched the hard floor that he was not, as he had always believed, a brave man. There was a weakness in his knees that made him feel wobbly.

This damned dim room, he thought shakily. He tried to picture it as it must have been when the Skal *things* were a young and vibrantly alive race and—

And couldn't! There was only himself here in this hell hole. He said aloud, grimly:

"You seem to have me, gentlemen. But I would say that you should think twice before you kill me. When I get into traps like this, I am usually prepared to make almost any kind of deal."

"The rat's beginning to squeal," somebody sneered from the dimness.

Blord shrugged. In such circumstances insults did not begin to touch him.

"When I eat humble pie, I eat all of it," he said coolly. "Now, as I understand it, the two main complaints against me are that I have endangered research investments and that I have made you all the subject of ridicule. It seems to me that if everyone's investment is guaranteed and the ridicule is turned on me, you gain—"

Somebody exploded, "Is this a man talking or a louse?"

There was a general murmur of disgust; and Blord felt the tensity of contempt that was suddenly out there. In spite of himself he flushed. He knew the codes that governed these far-flung frontiers of space; and he could suddenly visualize how his words, as he was uttering them, would later be broadcast to shame him. The dark picture put sharpness into his tone, as he snapped:

"Hear my proposition at least. It's to your advantage."

"Oh, sure," said a scathing voice. "Let's hear his proposition. Our stomachs are turned now. The worst shock is over."

Blord felt a quaver of irritation, intense irritation. They were all crazy, these men who used sex-dope on innocent women, seven-day poison, murder and straight robbery as instruments of their will, to feel so strongly about an apparent show of cowardice. With an effort he fought down his anger. The code was there. It existed. He hadn't figured it into his plan, but the very starkness of their feelings on the subject made everything easier.

"My ship," he began, "will win the race. It has attained a speed just under eighty-one percent of a Galactic liner. If anyone can equal that, just let him speak now, and I'll go quietly to the slaughterhouse. Well?"

After a moment, he went on more sardonically, "I am prepared to make the following offer, to be drawn up immediately, signed and sealed:

"That a joint stock company be formed with an issue of two hundred shares. Of these, fifty shall belong to me. One share each shall be assigned to each of ninety-three of the ninety-four companies, on the condition that they sign over all their patent rights to the new firm.

"The other fifty-seven shares shall be turned over to Selden Delaney, who will operate the company under the Kallear Regulations.

"I must be released immediately after the signing.

"Evana Travis shall be given the antidote and turned over to me unharmed immediately.

"Anyone or group may launch all the ridiculing propaganda they care to against me.

"The whole agreement is nullified unless I am alive at the time of the contest, and it goes into effect only if my ship does in fact win the prize."

A man shouted, "This will ruin you, Blord. The lowest riffraff will despise you after we get through publicizing how much dirt you've eaten."

It was several hours later that his spaceship flashed down to pick Blord up. And it was then, as he was stepping out of one of the dim tunnels of the Castle into the bright interior of the machine, that he felt the unwholesome touching against his mind that was the thought of the Skal *thing:*

"Well done, Artur Blord. How they will howl when their ridicule recoils upon them. Your ingenuity has given an unexpected titillation to my old bones. To show my appreciation for such an intellectual delicacy, you may call upon me at any time for one favor. Good luck."

The slimy mind withdrew into its night.

"But what *is* your plan?" Evana asked blankly later, as the ship hurtled through space. "You said you had one. But all I see is that you're going to lose your reputation, and you've signed away seventy-five percent of your rights to the winning space drive. If that's your idea of victory— And why did you give that terrible Delaney the lion's share?"

She looked genuinely bewildered. Blord stared at her thoughtfully, said finally:

"Don't forget that I didn't have a space drive three weeks ago. And don't forget, either, that I'm a twenty-five percent man, generally speaking. I can't be bothered with the details of an operation. What mainly interests me was that there should be a fast transport system.

"Of course"—he grinned—"once I thought of it, the idea was too lovely to go by default."

He broke off: "As for Delaney, obviously the man who actually runs a great interstellar line has to have a big incentive. And it had to be Delaney because he had you and the antidote. I had no choice; and don't think he didn't know it, either."

"But what *was* your idea?"

"It's really very simple. To begin with, I was absolutely certain that there would be merging of discoveries after the race that would greatly increase the speed involved. I anticipated. It cost me the fantastic sum of seven hundred million stellors in bribes, but sure enough a few simple combinations of several companies' different developments of the original atomic reaction and—

"You see," he finished blandly, "when they discover that they've signed away the patent rights on which my drive is based, that in fact *they* provided the drive, I don't think they'll feel like laughing any more."

There was a long silence. At last Evana tossed her head, said almost defiantly, "What about me?"

She was aware of his dark eyes studying her thoughtfully. He said at last, "I'm taking you to your sister on Doridora III."

"Oh!" said Evana. She wondered dimly why she felt miserable. The answer struck her two days later as she watched the silver-shining ship recede into the bluest sky she had ever seen. She whirled on her sister

"Do you know what's the matter with the Ridge Stars?" she said savagely. "There's too damned many chivalrous people."

SEA OF MYSTERY

By WILLY LEY

The Sargasso Sea is simply a mass of seaweed floating in the ocean. But it has been floating in that same spot, though completely unattached to anything solid, for so many millenniums that whole chains of evolution have worked themselves out in that loose mass of weeds!

THE story of the Sea of Mystery began aboard an old sailing vessel, a Spanish caravel which crossed the thirty-third degree of Western longitude. It was a Sunday, warm and with fair weather. The date was September 16, 1492. And the name of the caravel was *Santa Maria.*

For many days previous to that Sunday the crew of the ship and "the admiral," Cristobal Colon or Christopher Columbus, had seen nothing but waves and an occasional fish, the sky and occasional clouds and the stars at night. But on that Sunday there appeared on the surface of the ocean "many bunches of very green weed, which had for a short time, as it seemed, been torn from land; whereby all judged that they were near some island." The notion that it might be the mainland of Asia itself was discouraged by the admiral who declared that it must be "further on."

The following Monday the men fished some of the weed from the sea and found in it a tiny crab, well camouflaged and so small in size that nobody ever inquired whether it might be edible. Up to that day and during Tuesday and Wednesday the presence of the green seaweed was encouraging, it seemed to indicate that land was near, even if only islands. But during the following days, September 21st and 22nd, the men of the crew of the caravel became alarmed, the whole sea seemed to be covered with green and yellow weeds. They were afraid that it might become so dense that it would hinder the progress of the vessel and they actually wasted some time looking for open channels, as one looks for open channels in the ice in Northern latitudes. They failed to find such open channels, but the weed also failed to hinder their progress. So they accepted its presence and all it caused was an almost daily entry in the journal. *Vieron muchas yerbas*—"saw plenty weed," it read.

This was the discovery of the Sargasso Sea, still the champion as far as mysteriousness goes, of all places on Earth. It is interesting to note that the mysteriousness of a place increases somewhat with the square of the distance from the onlooker. The question "what is, in your opinion, the most mysterious place on Earth," will be answered according to the habitat and/or nationality of the person questioned. To a European, Death Valley is a most mysterious region, much more so than to an American, although the actual knowledge about Death Valley of both might be equal, even if that means zero. Tibet is more mysterious to an American as well as to a European than it is to an Asiatic. All of them, however, will be willing to agree on the Sargasso Sea as the most mysterious place on Earth.

But before we go on with the story of the Sargasso Sea it might be well to devote a paragraph or two to the question whether Columbus was actually its first discoverer. For some time geographers—among them such important representatives of that science as Carl Ritter, Peschel and Ruge—were of the opinion, or at least harbored the suspicion, that the Sargasso Sea was known to the ancients. The Greeks, it was said, knew about its existence from Phoenician sources. This opinion was founded upon a few rather short *en passant* remarks in classic writings. Skylax of Karyanda, a contemporary of Alexander the Great, spoke about clumps of seaweed in the Western Sea and Theophrastos was quoted as having written: "Outside of the Pillars of Hercules seaweed of astonishing size can be found, it is said, having a greater width than the palm of the hand." But for strange reasons nobody noticed that that quotation was incomplete. The next sentence read: "This seaweed is carried from the outer into the inner sea by currents." The outer sea, of course, the Atlantic Ocean and the inner sea the Mediterranean, weeds from the Sar-

gasso Sea do not occur far enough to the East to be caught by a current which might make them drift into the Mediterranean.

Skylax of Karyanda also did not mention the Sargasso Sea, even if his words might be interpreted that way by a present-day reader; he said that floating seaweed occurs occasionally in quantities along the coasts that are the trade routes of the Phoenicians. And floating seaweed does occur along the coasts of Morocco and of Portugal.

For all these reasons it is now generally accepted that Columbus discovered the Sargasso Sea, even though he was not the first discoverer of America.

It seems, however, as if the Phoenicians, though they had no knowledge of the existence of the Sargasso Sea, invented something that bears a close resemblance not to the real thing, but to the Sargasso Sea of fable. Outside the Pillars of Hercules, they asserted, there is a stretch of sea which is one large heaving meadow of plants, impossible to penetrate. That section is all the more dangerous since the plants were provided with hard and sharply pointed thorns.

The Phoenicians were masters in telling stories of this kind. All the horrors existing in ancient mythology were concentrated around and west of the Pillars of Hercules by them. There the entrance to the shadow world to the realm of the dead, could be found. Blood-chilling Medusa dwelt there, too. Even the exit from the Mediterranean was almost impossible to negotiate, it was flanked by Scylla and Charybdis. These two Homeric monsters were later placed in the Strait of Messina. We now know definitely that they were supposed to flank the Strait of Gibraltar. The Messina Strait explanation is a blunder of philologist—on a par with the famous assertion of the blue-blindness of the ancient Greeks—completely unsubstantiated and flatly contradicted by geographical features mentioned in the tale. But all these geographical features fit the Strait of Gibraltar nicely, Charybdis then turns out to be a whirlpool current on the African side. It still exists and it is actually powerful enough to endanger small vessels like rowboats on occasion. The story of Scylla—on the European side—was based, as I have shown in an article in *Natural History Magazine*—on the occasional occurrence of giant squids in and near the Strait of Gibraltar.

The Phoenicians had a very sound reason for "planting" all these tales. They had grown rich. and stayed rich, by being the only traders linking the Mediterranean with what is now the West Coast of Spain and Portugal and points North. Horror tales of that kind were the cheapest and easiest way to avoid competition in the flourishing trade; it was a then very effective method of maintaining a trade monopoly. Incidentally, many ancient tales of that ilk were originally invented for the same reason; the value of anything brought from afar increased if the buyer could be convinced that the journey necessary to obtain the article was not only long, but also dangerous.

The old Phoenician tales about a "weed sea" somehow lingered on, although no definite place was ever assigned to them. In fact Columbus, when contemplating his voyage which was to reach Asia from the east by sailing westward, had been warned that there might be such a thing after all. He had disregarded the warning and it seems that nobody connected the actual Sargasso Sea with the old legend—probably because the legend had assumed such horrible shape that a few bunches of seaweed, even if they seemed to cover the surface solidly when seen from a distance, could not possibly satisfy the horrid expectations.

Caravels and galleons, frigates, corvettes and clippers, they all crossed the region of the Sargasso Sea without finding anything especially noteworthy. In fact it was not before the end of the nineteenth century until the "fabulous" conception of the Sargasso Sea, or, more correctly the Sargasso Sea of romanticism, was fully evolved. Strangely enough scientific exploration of the Sargasso Sea had already been started at that time. It is significant that Jules Verne failed to place a single one of his numerous sea stories in the Sargasso Sea. Jules Verne did not weave his stories around existing legends, he used reports on scientific and engineering achievements as a nucleus for his yarns. What he saw about the Sargasso Sea were scientific reports which made the whole area appear merely curious, an immense stretch of salt water strewn with sea weeds. But there was nothing dangerous about them, according to these reports, nor was there a special mystery connected with the weeds and their small inhabitants, in short, the Sargasso Sea did not appeal to Jules Verne as a suitable *locale* for a story.

A description which would have intrigued Jules Verne was not published until 1897, when he was old and of poor health, famous and somewhat tired. That description was printed in a magazine which was

then, as it is now, generally regarded as a reliable source of information: *Chambers' Journal.* The article, printed in the May 1897 issue of that journal, presented the romanticistic conception of the Sargasso Sea full grown and with most of the curicules an imaginative author could think up.

> It is only natural that ships should carefully avoid this marine rubbish-heap where the Atlantic shoots its refuse. It seems doubtful whether a sailing vessel would be able to cut her way into the thick network of weeds even with a strong wind behind her. With regard to a steamer, no prudent skipper is ever likely to make the attempt, for it will certainly not be long before the tangling weeds would altogether choke up his screw and render it useless. The most energetic explorer of land or sea will find himself baffled with regard to the Sargasso Sea by the fact that it is neither one nor the other.

The article did not only provide this intriguing picture of a floating almost-continent, of a sea which one might enter but is unable to leave, it also told details of the sea from which there is no return. Inside the tangled mass of sargasso weeds you could find derelict ships of all nations and all ages, held together in the tangle of marine vegetation, rotting away under the tropical sun, but unable to sink, the haunting souls of damned ships. Viking vessels and Spanish caravels, warships of the Spanish Main and once fast clippers with a once valuable cargo, schooners and trawlers and even lifeboats from lost steamships. It was asserted:

> That sea held keels or skeletons of ruined ships so covered with barnacles, shells and weeds that the original outline is entirely lost to view; and here and there a derelict ship, transformed from a floating terror of the deep into a mystery out of reach of men in a museum of unexplained enigmas.

In 1898 the first story based on it appeared, written by the American author Thomas Janvier and entitled, plainly and simply, "Sargasso Sea." Janvier's hero is a young man by the name of Roger Stetworth who happened to get onto a slave-runner when taking passage to the Indies in search for a job. Getting into a fight with the skipper of the slave vessel he is beaten up, robbed and finally thrown overboard, but is lucky enough to find a floating mast to which he clings. Then he drifts into the Sargasso Sea, finally to land amidst "a vast ruinous congregation of wrecks, so far extending that it was as though all the wrecked ships in the world were lying together there in a desolate company."

As can be expected he finds skeletons still on the guns on lost warships, slave ships with skeletons still shackled to the hull. There are indications that some survivors of wrecked vessels stayed survivors in an unguessable fashion and finally he even sees two man-ghosts fight with each other to the death. At long last he finds a small steam launch which is easy to repair, but the trip out of the Sargasso Sea is an almost impossible adventure. Standing far over the bow with a long saw he had to work machinelike for days and days, sawing a channel into which the little steam engine could push the boat. Traveling some three miles per day he needed a full month to saw his way out, to reach open water and to encounter a passing vessel.

It was bad luck for Thomas Janvier that the "Cruise of the *Cachalot*" appeared during the same year, a book written by the first mate of an American whaler—his name was Frank T. Bullen—which actually stayed for days in the Sargasso Sea without being able to move, but not because of the weeds, but because the whaler was caught in a dead calm which happens frequently in that region. And Bullen could not find enough praise for the beauties of the Sargasso Sea and for the strange animal life that the crew found in the weeds.

At least half a dozen similar accounts praising the beauties of the Sargasso Sea appeared during the next decade, but in 1911 the old horror conception was revived by Justus Miles Forman in a story for *Colliers.* And ten years later the readers of a daily Berlin newspaper of very large circulation were thrilled every morning at breakfast by the serial instalments of a novel entitled "The Land of Lost Vessels," taking place in the middle of the Sargasso Sea, where a bully is ruling a hundred odd survivors of all ages and nationalities—including some children born there—until the hero repairs a wireless set in a wrecked steamer and calls seaplanes for help.

The impressiveness of the Sargasso Sea is not based on such a floating island of lost vessels—but that does not mean that this phenomenon is not impressive. It does not even mean that it lacks other than purely intellectual appeal.

The Sargasso Sea is actually unique.

Situated roughly between the thirtieth and fortieth parallel of north latitude and between the thirtieth and seventy-fifth

meridian West of Greenwich the area is about two and half million square miles, roughly the same as the area of the continental United States. The Sargasso Sea lacks a definite outline, but it has a more or less definite shape, an oval area bound by currents of the Atlantic Ocean. Because of these currents the whole of the Sargasso Sea rotates slowly, floating things actually drift toward the center. But the rotation is so slow that it is imperceptible, to the eye the Sargasso Sea presents an immense stretch of very calm, very clear and incredibly blue salt water.

The sargassum, the weed from which this area derived its name, is not always distributed evenly, in one year a certain sector might be so sparsely "weeded" that there are hardly five bunches of it between the observer and the horizon. Next year that same sector may be covered with floating weed so that it, some little distance from the ship, looks solid enough to walk on.

But it never is, not even when especially dense. One oceanographer—Parr—has invented a special gadget for sampling sargasso weed and from very many such samples taken almost everywhere in the Sargasso Sea Parr arrived at the conclusion that there are about ten million tons of seaweed afloat. Ten million tons sounds like an awful lot, but the Sargasso Sea is big, if those ten million tons were even more evenly distributed than they normally are only twenty-four ounces of weed could be fished from each acre of the Sargasso Sea. Even so the Sargasso Sea holds a record of some kind: there is no other area on Earth which produces such a quantity of a single species of plants.

The scientific name of the sargasso weed is *Sargassum bacciferum,* but there is no scientific name for the method of reproduction of that representative of the so-called brown algae. In view of the facts even the word "reproduction" sounds exaggerated. At first it had been believed that the Gulf Weed, as sargassum is often called, grew on submarine banks and floated to the surface after having been torn off. The floating pieces, it was said, stayed alive for only a few days and then decayed. All this sounded reasonable, all the more so as seaweeds that were torn loose somewhere and drifted decaying into the Sargasso Sea have been found often enough. The original homes of these weeds were known, it remained to find the home ground of the sargassum and since a search along the American coast and the coasts of the West Indies islands proved unsuccessful it was thought that the home ground of sargassum was on the bottom of the sea, more or less directly underneath the place where they were afloat.

When the famous *Challenger* expedition of 1873 entered the region of the Sargasso Sea, the search for these submarine banks where the sargassum really grew, began. To the great surprise of everybody concerned the *Challenger* men failed to find them. Possibly they were a long distance away, possibly there were undersea currents which carried the weed along until it floated up to the surface. But such undersea currents could not be detected either. Maybe sargassum was actually pelagic, floating and reproducing where it was found by passing ships. But the samples of sargassum that were taken never showed the slightest indication of reproductive organs. The little clusters of "berries" taken as such by early sailors were quickly recognized as little air bladders which keep the plants afloat.

A Danish scientist by the name of Winge, a member of the Danish Oceanographic Expedition of 1908-9 finally proved conclusively that gulfweed does not grow anywhere else and that it is not torn loose by storm and waves. It is decidedly a pelagic perennial and as for reproduction, well, it has none. At least not in the accepted sense of the word. It does not form seeds, it does not produce spores. Tubers, buds and runners are meaningless terms as far as gulfweed is concerned. It simply grows all the time at one end and decays at the other.

The whole organization of sargassum shows, however, that it must have been a species of "rooted" brown algae in the past and must once have been torn off. But nobody can say when and where, the only thing that can be stated is that it must have happened long ago, because sargassum now dies when it is forced to live under the same conditions as those algae that are torn off and drift into the Sargasso Sea, to die there where the other kind flourishes.

While the sargassum weed is too small and, in spite of its ten-million-ton total, not numerous enough to provide a jungle for ships and men it does form a magnificent jungle for small sea creatures. The Sargasso Sea is full of more or less weird things, weird mainly because they all try to imitate the shape of seaweed for better camouflage. The small crab seen by Columbus and his men in the bundle of weed they fished up is about as large as a dime and hardly visible

against its natural background. It is now catalogued as *Planes minutus,* "little wanderer," if you insist on a translation. Another crab of the Sargasso Sea just as numerous and hardly larger than *Planes minutus* is the "drifting crab of the sea god"—*Neptunus pelagicus*—it is easily possible that it was this kind that was caught by Columbus.

About as numerous as these crabs is *Scyllæa pelagica,* the name of which reminds you of the Homeric horrors guarding Gibraltar, originally invented by alert Phoenician businessmen. It is only a little sea slug, a snaillike animal. Sea slugs normally have chunky bodies and *Scyllæa* is no exception. But *Scyllæa* has folds and flaps of skin which others do not have, folds and flaps of skin that look like branches of sargassum and that make the body appear as just a tangled clump of such branches. Looked upon with the eyes of a creature of a quarter its size *Scyllæa* has received its horrible name deservedly for it is insatiable and voracious, but to human eyes it looks mainly amusing.

The giant octopi that were the prototype of the Homeric Scylla seem to be lacking in the Sargasso Sea—the water is probably too deep for them—but small octopi can be had in large numbers. The same goes for jellyfish, especially the dreaded Portuguese man-of-war is quite frequent. And two types of strange creatures of the Sargasso Sea deserve special mention: the water fleas and *Halobates.* The water fleas are, of course, tiny crablike animals, like those Daphnia that form the staple diet of the tropical fish in your aquarium. The Sargasso Sea water fleas, at least some varieties, have a special characteristic, they have enormous eyes. Nobody knows why, especially since the Sargasso Sea has probably the clearest water in the world, but it is a fact that some of them do not look like little creatures with large eyes but like a pair of large eyes with some appendages.

Halobates, on the other hand, is something that should not live in the Sargasso Sea at all. It is an insect, and insects shun the sea, even though many insects go through a larval stage that is spent in and under water. And many insects may be found in, near and around water even when adults, but it is always fresh water, there is no such thing as a marine insect. None, that is, except *Halobates,* but even he does not live in the sea but on top of it. *Halobates* is a water strider; with six long hairy legs the insect runs over the surface of the sea, occasionally resting on an exposed part of a clump of seaweed. *Halobates* reproduces by means of eggs which are laid on top, not of seaweed which may sink, but of floating bird feathers. In spite of a life in watery surroundings, sometimes thousands of miles from the nearest land, *Halobates* still does not like water, it just lives there, grouchingly, in an almost-contact with the sea.

I know, all this sounds rather interesting and may concede that the Sargasso Sea is a place of beauty instead of horror and that it must be an inexhaustible field of study for oceanographers, zoologists in general and ichthyologists in particular. But it also sounds just a little bit disappointing, one would expect at least a few minor miracles from a place as strange as the Sargasso Sea. A seaweed that has no method of reproduction, small sea creatures that camouflage themselves as seaweed and a water-shunning insect that lives surrounded by the ocean are fine, but not quite enough.

This demand for a few Sargasso miracles can be satisfied, in fact they are major and not minor miracles. But they were not easy to discover and turned out to be of unusual nature. And they all have to do with the hatching of young fish—the Sargasso Sea is the greatest fish nursery on our planet.

The story involves mainly three kinds of fishes, as different in appearance as possible. We'll start out with the flying fish. Some seventy years ago Louis Agassiz, then at the height of his fame, announced that a clump of sargassum had been fished up that was wound round and round with something resembling a pearl necklace, a string of fish eggs. Agassiz thought that they were the eggs of the Sargassumfish, known in scientific circles as *Pterophryne.* Since Pterophryne is one of the main features of fish life in the Sargasso Sea that conclusion sounded reasonable enough. And every once in a while when a vessel crossed the Sargasso Sea and fished weeds with strings of fish eggs attached to them from the warm blue water it was taken for granted that these strings were proof for Pterophryne's reproductive activities. But then, in 1925, William Beebe let a string of these eggs hatch under close observation—and out came young *Exonautes,* a variety of flying fish!

It is known that this whole section of the Atlantic Ocean, not only the Sargasso Sea proper, is teeming with flying fish. They are as numerous as butterflies and beetles over a stretch of waste land on a hot day and it could be taken for granted that they would

produce eggs in large quantities. The find that the numerous fish eggs cluttering up sargassum weed were eggs of flying fish confirmed this thought and it showed, at the same time, where they were laid. Flying fish are surface fish with a pronounced love for warm water. The eggs of those fish share that love, they do not develop when they get into cold water. But even a tropical sea is warm only at and near the surface, a hundred fathoms down it gets cold and colder and the bottom temperature is about the same all over the globe, some three to four degrees centigrade above freezing point, normally four degrees, at which temperature water is at its densest.

Since most of the area over which flying fish can be found is deep water their eggs would not hatch. They are heavier than water and would sink to the bottom—everything heavier than water settles down to the bottom, no matter how deep the ocean, it is another one of those sea fables that it does not—if it were not for sargassum. Sargassum, equipped with countless air-filled bladders, stays at the surface and the buoyancy of the bladders is sufficient to carry a few hundreds of fish eggs too.

These facts indicate that the vast majority of all flying fish in and over the Atlantic were hatched in the Sargasso Sea. This alone might suffice to make the Sargasso Sea the biggest fish hatchery in the world, but it is only the beginning of the story.

The Sargassumfish breeds there too, of course. When fully grown—about four inches in length although they continue to grow to about six inches maximum—the fish produces a long string of gelatinous matter, containing roughly two thousand eggs. The gelatinous string absorbs water thirstily and swells to ten times its original volume. It then looks and feels like a lump of quivering jelly. The mystery is—but it is first necessary to describe Pterophryne.

There exists a fairy tale about a tailor who asked his fairy godmother for the magic gift and thereafter, when a customer brought him four yards of cloth he stretched it to forty yards, with a nice profit to himself. Of course the story found an unhappy ending because one day, disturbed by a fly, the tailor pulled his own nose by mistake. If you imagine that that tailor, in an idle hour, played around with a fish of normal shape and figure, you have an idea of how Pterophryne looks now. The fins are pulled out a bit here and there, the skin forms unreasonable flaps and semiappendages and the whole thing is somewhat out of shape. And after the tailor got through playing with his unlucky female fish and viewed the result with mild horror he went to the Camouflage Department of the United States Army, got hold of one of the artists employed there and said: "Look, I made a mistake with that fish; paint it away, please." Whereupon the artist got to work and decorated the former fish with stripes and bands the color of sargassum weed and passed it on to the navy to have it dropped into the Sargasso Sea where it is densest.

Pterophryne looks precisely as if it had undergone such half magic and half scientific treatment. The camouflage is perfect and it has to be because Pterophryne's appetite never slackens for even one minute. The strangely shaped and perfectly color-blended main representative of the fish fauna of the Sargasso Sea eats whatever comes in front of its mouth. If a bigger fish tries to swallow it, Pterophryne has a nice system of defense: it swallows sea water rapidly and in big gulps so that it swells up considerably. This method does not only possess a considerable surprise effect, it also converts the fish into a very prickly bite of sea food, usually the bigger robber lets go. Pterophryne does not like to be eaten, but it likes to eat. Everything that is not vegetable in origin is considered edible.

The scientist Hugo Smith saw a six-inch Pterophryne swallow one of four inches in one gulp—the smaller one tried the water-gulping trick, but to no avail. It is about as if a full-grown man swallowed a full-grown Great Dane at one gulp—but Pterophryne "did not seem particularly incommoded thereby."

William Beebe observed something rather similar while on his "Arcturus Adventure." They had caught three Sargassumfish and put them in a jar with sea water.

> There had been three, sized like the three bears, but after half an hour we found that an inverted magician's trick had been performed—to my astonishment, where there were three, was now but one—a Pterophryne, very fat and gulping uneasily. The awful truth dawned upon us, but we never settled whether it was a case of Japanese boxes, each within the other, or whether the big cannibal had in turn engulfed his spiny and much tentacled brethren.

I should add, as a statement of fact, that all these Sargassumfish were females. But that does not prove anything for or against the better nature of the males, because *all*

Sargassumfish ever caught were females. Nobody has ever seen a male. It is also true that many Pterophryne eggs fished from the the ocean were not fertilized and did not hatch—but there must be males somewhere because the Sargasso Sea is also full of young specimens of Pterophryne. There exists a suspicion about that, but so far it has not been verified.

Pterophryne has relatives elsewhere, the anglerfish—Lophius—which produce eggs behaving very similar to those of Pterophryne. But Lophius, an inhabitant of northern cold-water seas, leads a normal family life. To find something more unusual we have to go a step farther and look at the deep-sea relatives of the anglerfish, the sea devils. For a long time only female sea devils were known—later it was found that male sea devils had been caught in quantities too, but had not been recognized. In fact they had been caught together with the females—because the male sea devils are tiny things, completely degenerate that are grown to the bodies of the females.

Whether things are similar with Pterophryne nobody knows and nobody dares to guess, so far as the result of all searches has been perfectly negative. But no matter what the method will turn out to be, you can add countless millions of Pterophryne to the fish that were hatched in the Sargasso Sea.

The last part of the story centers around the name of a Danish ichthyologist, Dr. Johannes Schmidt. Dr. Schmidt had no intentions to investigate the Sargasso Sea at the expense of the King of Denmark, but that is what finally happened because Schmidt was trailing a fish of his own native country and the trail ended in or rather under the Sargasso Sea.

The fish trailed by Dr. Schmidt was *Anguilla anguilla,* then called *Anguilla vulgaris,* the common European river eel, next cousin to the common American eel, *Anguilla rostrata* or *Anguilla chrysypa,* if you follow a more recent system of classification. Incidentally, they are so much alike that nobody can tell them apart from just looking at them, other methods are needed to distinguish them, methods we'll discuss soon

Before he began his researches Dr. Schmidt knew as much about eels as any fisherman in Denmark or in Europe generally. He knew that eels live in fresh water during what appears to be the greater part of their lives, that they seem to be able to cross short stretches of land when the grass is wet with a heavy dew and that they are fully grown and especially fat when their ordinarily darkish color turns silvery. When that happens they are ready to embark on a down-river journey to the sea, usually in fall. He knew that young eels would come out of the sea the next spring, swim up river and wax fat during the following years. He knew—this was a little above the knowledge of most fishermen—that male eels begin to turn silvery when between twelve and twenty inches long, which is from four and one half to eight and one half years after they came from the sea as elvers or glass eels. The females would be ready for the journey when between fourteen and twenty-six inches in length, ten and one half to twelve and one half years after the elver stage.*

And he knew, what most fishermen did not know, that the eels underwent another stage, before they emerged from the sea as glass eels. This stage is a strange one, and it is not surprising that a mistake had been made about it before the true connections became known.

In 1856 a naturalist by the name of Kaup had caught and described a most interesting small salt-water fish. It looked like a laurel leaf, just short of three inches in length and perfectly transparent, as if formed of almost clear glass. Kaup did not know anything about this fish but its appearance and the fact that it could not be found in any scientific book on fishes. Being its first scientific discoverer it was up to him to give it a scientific name. He did this in christening the strange little fish *Leptocephalus.*

Many years later, in 1890, two Italian ichthyologists, Grassi and Calandruccio, came across Kaup's description of Leptocephalus and decided to find out details of its habits of life; there was a fairly steady supply of these little fish available to them. Still the investigation had to wait because of other work, but in 1895 Grassi and Calandruccio found themselves with some spare time and they went to work on Leptocephalus. The first step was, obviously, to catch a number of them, put them in an aquarium with sea water and watch them live. To their surprise the biggest of their Leptocephali, all of seventy millimeters long, began to shrink after some time. They got shorter by about ten millimeters and narrower at the

* Eels can grow much larger on occasion. Three-foot females ten and one half to twelve and one half years old are not rare, and five-foot specimens, weighing twenty pounds, have been caught.

same time. And like a tadpole changes into a small frog with fair suddenness after a long period of hesitation the Leptocephali changed into little eels, glass eels.

Dr. Schmidt knew Leptocephalus, the leaf-like larval stage of the common eel—European as well as American—well. During a minor expedition in the northern parts of the North Sea he caught one himself. This was in itself not very surprising, but the Leptocephalus had been caught near the Faer-Oer Islands, farther north than ever before. When he reported this catch to the Danish Academy, the Danish Government decided that a more thorough investigation of the wanderings of eel larvae was indicated. Dr. Schmidt received the rather large order to find out about eels, everything that could be found out. It was a long and tedious job; Dr. Schmidt worked on it with few interruptions from 1904 to 1922. It was also much more expensive than the Danish Government had thought at first, but the research yielded economic results.

Schmidt went about it, in about the following manner. At first he fished the North Sea off the Danish and German coasts for young metamorphosed eels. A little farther out large Leptocephali began to appear. Still farther out they were a little smaller—but seasonal variations had to be kept in mind, of course. It seemed as if all the Leptocephali came from the Atlantic, entering either through the English Channel or via the Northern route around Scotland. Schmidt reported that he believed that the eels traveled with the Gulf Stream, if he was correct he would find smaller and smaller Leptocephali if he traveled against the Gulf Stream into the Atlantic Ocean. But for that work he needed a bigger ship which could, if necessary, weather the storms of the high seas and which was roomy enough for a research staff and the paraphernalia of oceanographic research.

After a short delay he got such a ship and sailed out into the Atlantic always against the Gulf Stream. Leptocephali? Sure! Smaller and smaller ones all the time, the first guess had been correct. He was hardly surprised when the trail led him into the Sargasso Sea, to a point south of the Bermudas, not very far from the American mainland.

This being the case the question of whether the Leptocephali were larvae of American or of European eels became important. There was a way to decide that question, but it was no pleasure. The very young Leptocephali could not be distinguished, but when they reached a length of about one inch they could be told apart. Those living glassy laurel leaves consist of a number of segments—later vertebrae—which furnished a clue. The larvae of European *Anguilla anguilla* had normally one hundred thirteen to one hundred seventeen segments, those of American *Anguilla chrysypa* had one hundred six to one hundred nine segments. Occasionally the Americans had a few less—down to one hundred four—and the Europeons a few more—up to one hundred nineteen. Things became difficult when the Europeans had less than normal and the Americans more. They met at one hundred eleven segments—there were, in all, six or seven with that number. They could not be classified.

The results of Dr. Schmidt's work, in condensed form, are as follows: Both kinds of river eels, American as well as European are to be regarded as immature deep-sea fish which spent their childhood and their short adult life in the seas, but their extended period of adolescence in fresh water. When mature the eels go back to the place where they were hatched, the Sargasso Sea. They meet there and mate—Americans and Europeans in neighboring but separate camps—and then die. The eggs are laid in the deep water below the Sargasso Sea and hatch there, even though the water near the bottom is cold. Once hatched they come to the surface and drift with the Gulf Stream. The Leptocephali of the European kind need two and one half years for the journey to the North Sea, during that period they grow from ten to seventy-five millometers. Then they change into elvers or glass eels and enter fresh water.

The American variety, being hatched so much closer to the mainland, needs only about one year to make the journey and grows to about the same dimensions during that shorter period. Otherwise everything works the same way, there are no differences save for the quicker rate of growth and the different number of sergents.

Nobody knows how such an adaptation came about. Why did the European eels, if they have to breed in salt water of great depth, go all the way to the Sargasso Sea to do it? One should think that they might as well go to the first deep spot in the Atlantic, near the European shore. Why do the American eels insist on going to the Sargasso Sea? They have deep ocean only a score of miles from the mouths of the big

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WHOM THE GODS LOVE

By LESTER DEL REY

The Jap bullet killed his personality—but didn't quite kill him. It gave him a new sense—and was, for the Japs, a most horrible mistake—

At first glance the plane appeared normal enough, though there was no reason for its presence on the little rocky beach of the islet. But a second inspection would have shown the wreckage that had been an undercarriage and the rows of holes that crisscrossed its sides. Forward, the engine seemed unharmed, but the propeller had shredded itself against a rock in landing, and one wing flopped slowly up and down in the brisk breeze that was blowing, threatening to break completely away with each movement. Except for the creak and groan of the wing, the island was as silent as the dead man inside the plane.

Then the sun crept up a little higher over the horizon, throwing back the shadows that had concealed the figure of a second man who lay sprawled out limply on the sand, still in the position his body had taken when he made the last-second leap. In a few places, ripped sections of his uniform showed the mark of passing bullets, and blood had spilled out of a half-inch crease in his shoulder. But somehow he had escaped all serious injuries except one; centered in his forehead, a small neat hole showed, its edges a mottle of blue and reddish brown, with a trickle of dried blood spilling down over his nose and winding itself into a half mustache over his lip. There was no mark to show that the bullet had gone on through the back of his head.

Now, as some warmth crept down to the islet from the rising sun, the seemingly dead figure stirred and groaned softly, one hand groping up toward the hole in his forehead. Uncertainly, he thrust a finger into the hole, then withdrew it at the flood of pain that followed the motion. For minutes he lay there, feeling the ebb and flow of the great forces that were all around him, sensing their ceaseless beat with the shadow of curiosity. Then his eyes opened to see the flapping wing of the plane, and he noticed that it was outside the rhythm of the forces that moved. His eyes followed its outlines, then through the pitted covering he saw the form of the corpse within.

It lay sprawled there, stiff and rigid, and within it was none of the small trickle of energy that coursed through his own body. Yet there was something familiar about the still form. A vagrant whim of his mind caused the corpse to pull itself around with one stiff hand until he could see its face—or rather, what had been its face. Then, after comparing it with his own, he found no resemblance and let the body slide back into silence. About him the little eddies of force resumed their routine, no longer perturbed by the impulses that had gone out of his mind toward them.

He turned his head then, glancing over the little island and out toward the sea, wondering if all the world was like this. It seemed empty and not a little ridiculous, but there was nothing to show otherwise. He wondered vaguely whether he had come there newly or had always lain there; and a further wonder came to him as he looked at the plane again. It was out of keeping with the rest of the island, and since its type was different, he assumed that it had come there from elsewhere. Inside it, the corpse reminded him that it had not come alone. Well, then, probably he had come with it. Perhaps the still figure inside would stir to life under the rays of the sun, as he had. He clutched at the passing forces again, twisting them in a way he did not understand, and the limbs of the dead man lifted him and brought him out into the sunlight on all fours.

For minutes the living man stared down at the other figure, but tired of it when he saw no signs of warming into life. Perhaps he was an accident and the other was the normal form of his kind. Or perhaps the other had offended the forces around and they had drained themselves out of him. It was of no importance.

Again he looked upward, watching the dancing paths of the light from the sun, and as he bent his head the *wrong* feeling

inside it grew greater. Slowly he lifted his hand, but that motion caused none of the racing pain, so it was not that movement itself involved the feeling. Perhaps it was the hole in his head. Gently with his fingers he pressed the edges of the hole together, drawing the skin out over it until it was healed; it helped the little surface pain, but made no change in the inner agony. Apparently the forces of life were painful—no matter, then; since the pain was obviously a part of him, he must accept it. Noting the tear in his shoulder, he forced that closed again with his fingers, then glanced back at the sky.

Above, a bird wheeled slowly over the sea, and he watched it move, noticing in it the same stirring life that he sensed in himself, but without the awareness of the forces about. On an impulse, he willed it to him, reaching out as the little form slipped down and forward. Behind it came a crack as the air exploded back into the hole its passage had torn; the bird was a sodden mass as he felt it, warm but inanimate, and he tossed it aside in sudden disgust.

And still the wing of the plane flapped awkwardly in the wind, and his eyes slid back to it again, his mind remembering the beat of the bird's wings. He reeled toward it, the steps uncertain, until the effort displeased him and he lifted himself upward on the waves around him and slipped forward easily toward the plane. Vague memories stirred in his head, and his thorax contracted in a strange yearning feeling toward this great dead bird. It was wounded also, and its head was filled with a strange rock that made it sluggish. Gently he pulled out the engine, first causing the bolts and holding part to drop away, and put it aside on the sand; his eyes went to the guns, but the little eddy of memory told him to leave them, and he obeyed, though he pulled away the landing gear and tossed it beside the engine and broken propeller. One by one he pressed the holes in the sides together and let the broken skin of the wing grow back, as his own shoulder had done. The other wing was stiff, paralyzed, apparently holding the machine down by its uselessness, so he looked inside to find it filled with unjointed struts; with its elbow for a model, he corrected the error in the machine, standing back in approval as that wing also began moving gently up and down.

There had been no purpose in his actions beyond an idle kindliness, but now he considered the plane and the bleak sea and sky beyond the islet; over the horizon lay other lands, perhaps, since the bird had come from that direction. And out there might be others like himself who could explain the mystery of his existence. Surely there was a reason for it, since the mothering forces of the cosmos about him were moving purposefully, in ordered pattern, except when his will disturbed them. And since he could mold them, surely he was greater even than they, and his purpose must be higher. He started to rise and glide forward on the wings of those forces, but the plane below him called him back, filled with an odd desire for it. It, too, seemed to want to leave, and he let himself drop inside it, down onto the seat that was before his eyes. Then, responsive to his desire, the forces eddied into it, the wings lifted resolutely and beat down together, and it lifted up and away."

But as his attention wandered, it fluttered unevenly and began to fall, calling him back to the need of supervising. That should not be so. Once begun, the plane was supposed to go ahead on its own—memory assured him of that. And obediently the forces slid back, gliding over the surface of the ship, becoming a part of it. This time, as his mind wandered, the wings beat on in a smooth rush, the plane answering without thought to his uncertain twist of the wheel. That was better. His arms made movements on the controls almost instinctively, and now the ship obeyed them, its passage silent except for the keening of the air as it forced its way ahead.

He sent it up, higher and still higher, but below him the sea stretched out in seeming endlessness. Finally his breath began to come hard, and the air to thin out, though the forces grew thicker and stronger. For a little while he let them push against the air inside the cabin to thicken it and climbed on, but increasing height began to make objects hard to see below, and he dropped back, returning to his straight line. The needle on the compass pointed due north.

The sun was in the middle of the sky when the vague feeling inside him brought visions to his mind, and he recognized the need of food. There were several mental pictures, some sharp, some vague, and he selected an apple and ham sandwich at random, solidifying the pictures of them and eating. The first bite was flat, tasteless stuff, but his senses recognized the error and his mind brought the cosmic forces into play, correcting them as he chewed. The other

urge was heightened instead of removed, but it was an hour later before he recognized it as a need of water and drank deeply from the fountain that appeared for a time over the wheel. Later, the empty cigarette package on the floor caught his eye and he filled it, along with the bottle that had held brandy. With his needs satisfied, he settled back.

A thousand feet below him, the water stretched on in apparent endlessness, but he was in no hurry. Aside from the pain in his head, the world was good, and that had become so much a part of his thoughts that he scarcely noticed it. The sun crept down slowly toward the horizon, slipping through the few cloud banks.

Something about that awakened a half memory in him; the sun was partly in the clouds, just touching the water, and sending out streamers of light. Somewhere he had seen that before, and a savage snarl came into his throat instinctively as his hand went up to the place where the hole had been in his forehead. A sun with fixed rays from it, painted on something—and a thing to be hated! He pinned the idea in his memory as darkness began slipping over the ocean, and he brought the ship to a stop, letting its wings hold it motionless over the sea. With the coming of night, there was no purpose in continuing his search, but he'd remember that banner if he found it during the day. In the meantime, he chose to eat and drink again, then curl himself up in the air and go to sleep.

It was a sharp spattering sound that brought him out of his sleep and sent him falling toward the floor of the cabin before he could catch his thoughts. Then another burst of sound came rushing toward him, and the side of the ship suddenly sprouted a series of holes like those he'd removed the day before, while metal slugs shot by over him. With an action governed by sheer conditional reflex, he was up and into the control seat, wheeling the ship about before his mind had evaluated the situation.

Ahead of him now appeared five ships of somewhat different design, all coming in sharply toward him. With part of his brain he deflected the all-pervading forces, cutting off the rain of bullets by denying to himself their ability to reach him or the ship. With the rest, he was trying to understand, and failing. In the thoughts of the little olive men out there he could read hatred, fear, and a desire to kill, though he had done nothing against them. Then the gently fluttering wings of his ship beat down savagely in response to his demands and threw him forward toward them.

Horror sprawled through the thoughts of his enemies, superstition accompanying it. For a split second they sat glued to their controls, eyes focused on his beating wings and then lifted as one man and went streaking up and away. As they passed, he saw the device of the sun and rays on the planes, and the hatred he'd felt before welled over him, driving back all voluntary thought. The wings of his plane beat harder, drumming the air in resounding beats, but the ships were back at him again before he could rise, superstition still strong, but the desire to kill stronger.

Then his eyes lit on the gun controls, and memory stirred again, telling him that death came from such things. He gripped them fiercely, but nothing happened! With a frown he tried again, then drove his vision down and into the weapons to find there were none of the little metal slugs that should be there. And the shadow of memory reminded him that they had all been used before, when he'd been forced down onto the little island by such men as these. They—

The clouded mind refused to go on, but the hatred stirred and writhed inside him, even while the bullets came spattering toward him, broke against the barrier he still held, and went hurtling down uselessly. Then one of the other ships came swooping forward, straight toward him, its purpose of ramming him plain in the enemy's mind!

The guns *must* work! And then they were working. Little blue lights collected in drops and went scooting out toward the end of the guns, to streak forward in a straight line. He brought the sights up on the hurtling ship, and blue fire sped forward to meet it, to fuse with it, and to leave the air empty of both plane and light, only a thunderous sound remaining.

It was too much for the sons of the Rising Sun. A roar came from their motors and they dived under him, heading south in a group, the tumult of their propellers pitched to their highest limit. But he had no intention of letting them get away; they had attacked without warning, and they must pay.

His wings were beating the air savagely now, and he let the ship jerk around on its tail, heading after the four ships. The hate in his mind gripped at the forces about, driving him forward in a rush that left a constant clap of thunder behind him as the

air came together again in his wake. But he had learned from the crushed bird, and held a cushion of air with him to save his ship. Then the four remaining ships were before his sights again, and the little blue drops coalesced and ran down the barrels to go scooting forward hungrily. The air was suddenly clear ahead of him.

Still his wings drummed up furiously. They had turned south, and in their minds had been the pictures of others of their kind in that direction. Very well, he would find them! At thirty thousand feet he leveled off and solidified a young roast turkey and a glass of water, but his face was grim as he ate, and his eyes were leveled at the sea below. The things he had seen in the mind of the enemy officer had been reason enough for their elimination, enough without the knowledge that there were others of his kind somewhere whom these little yellow men were killing and torturing.

The blue drops of light ran together and formed into a bigger ball at the muzzle of one gun as he thought. Finally the ball dropped, jerking downward at a speed beyond the pull of gravity, and the ocean spouted up to meet it, then fell back in a boiling explosion that sent huge waves thundering outward. He paid it no attention, and the waves fell behind.

The last of the turkey was still in his fingers as he spied them below and near the horizon—a swarm of midges that must be planes, and below them larger objects that pushed over the water and left turbulent paths in the sea. There were many of them, moving slowly ahead, with the swarm of planes spread out to cover a great distance around them. He wasted no time in counting, but clutched the controls and sent his ship down in a swooping rush that brought the planes before his sights. The blue light gathered and went ahead, and he was rushing on through the space the enemy had occupied, questing for more. At first they were kind, and rallied into a group to meet him, but those that were left were wiser.

He swung in a great circle, taking them as he could find them, hoping that he could get them all before the last could disappear from his sight. Those that dropped down frantically toward the surface vessels below he disregarded, and seeing that, others dived. It was a matter of minutes until the air was clear, except for the larger missiles that came arching up from the craft on the sea.

One found him, and it carried more force than the bullets for which his shield was designed. He had only time to deflect it, and to throw a band of force around it before it exploded. Then it was gone, leaving a gaping hole on each side of the cabin, a couple of feet behind him. He knew that no shield he could control would protect him long against any great quantity of such, and lifted his wings upward, rising rapidly and collecting a reservoir of air about him to meet his needs in the level toward which he was climbing.

The vessels below were scattering now, and he noted staccato bursts of a wave force coming from them, but it was harmless and he guessed that it was some kind of signal. The air about was filled with that force, too, though much weaker than the ships were sending out, but it seemed of no other use. He disregarded it, continuing up until sixty thousand feet stood between him and the force under him.

Then he tilted the nose of his ship, bringing it downward, and hung suspended while he let the blue light collect. From this height the sights were useless, but there were other ways of controlling it; as each globe grew to the desired size, he released it, guiding it down with his mind, stopping it above the ships, and directing it toward the one he had chosen as a target. Even at the distance he remained, the chaos of terror below reached up to him, and he grinned savagely. There was some unknown debt he owed them, and he was paying it now. Ships were foundering in the waves that leaped from the disappearance of others, but he gave no heed to their condition as the blue globes dropped downward. And at last, reluctantly, he dropped to search for more prey and found them gone, except for two small boats that had been lowered and not harmed. In them the occupants were dead; the cosmic forces he had used were not too kind to living flesh when out of control, even at a distance. They were powers that molded suns.

Perhaps there were more ahead. He had had no time to glean information from their minds, but there was a change, and he went on winging south, though more slowly, relaxed at the controls. His head was numb and heavy now, and he was covered with sweat from the efforts of the past half-hour. He knew that the energy he used was only a weak and insignificant thing, a faint impulse in his mind that reached out and controlled other forces of the universe; they alone could yield the energy needed. But even the tiny catalytic fraction he supplied

had drained him for the moment. And the pain in his head was worse.

A sudden flood of the signaling energy came to him then, and he grinned again; so it had been signals, now being answered! Much good it would do them. They came from the north this time, and he hesitated, but decided to go on. If there was nothing in this direction, he could turn back.

The sea was barren of surface craft, and the air was empty. Now, though, he was passing near islands at times, he saw no signs of enemy flags there, and chose not to search for them through the jungles that covered them—that could wait until later. He lifted back upward to twenty thousand feet and went onward. And more islands began to appear, stirring uncomfortably at his mind, pushing the beginnings of pictures into his consciousness. Below, dots moved on the ocean, and he started down grimly, blue forming on his guns. Then an eddy of thought from them reached his mind, and he hesitated. Those were not the same people as the others, and the ships were carrying freight instead of weapons.

For seconds, he hung there, then went up again, well out of their sight, and altered his course westward, unsure of why, but knowing that the tugging of memory was his master. Islands appeared and went under his eyes, arousing only a passing notice, and twice groups of planes sped under him, but they were without the sun device, and he let them go.

When the land appeared, finally, he sped over it, conscious of some familiarity, sure now that the impulse had been one of memory. He strained his vision until his eyes seemed to hang a few feet over the land, sent his gaze forward, and made out more planes, and some kind of landing field for them, with tents grouped around it. Men like himself were walking about, and a strip of cloth floated from a pole, striped in red and white, with a blue field carrying white pointed figures. Memory crowded forward, hesitated and retreated. He shook his head to clear it, and the pain that lurked there lanced out, throwing him to his knees and out of the control seat. He gripped the aching back of his skull and staggered up again, his eyes fixed on the flat, tugging at his brain for the thought that would not come.

But the pain always came first. And, finally, he forced his vision inward toward it, his lips grim with hatred of the feeling that refused to obey. Under his skull in the gray convolutions of his brain, a gory trail cleft through the center, exactly on the dividing line between the two halves, and ended in a little lead pellet, pressing against one curious section. Even when he forced the torn tissues of his brain together, and healed them, the pain went on. With a sudden mental wrench, he focused on the lead pellet—

Pain and bullet vanished, and Lieutenant Jack Sandler looked down at his landing field from a plane that was already beginning to come to pieces under him, its wing tilting crazily upward. For a moment he stood in the pitching ship, grasping at his senses. Then, with a grab that assured him his parachute was still buckled on, he forced himself out, miraculously avoiding a twisting wing by fractions of an inch, and waited until it was safe to open his chute. The cloth billowed out above him, and he was drifting downward, off to one side of his home field, with the ship already falling in pieces. It landed in the thick of the jungle far to the east, mere scrap metal, broken beyond recognition of any strangeness.

But his thoughts were not on the plane, then. He was realizing that he'd been gone three days, and trying to remember. There'd been the Zeros, streaking at him, and the hit that had killed his motor and forced it down on the islet. Jap planes had come down in savage disregard of all decency, machine-gunning his crippled plane, chewing off the face of Red, who'd been beside him, and whining by his ears as he'd managed to leap through the door. He must have been stunned by a bullet or by the fall, since he could remember only hazily making the ship fly again somehow and heading homeward. And, vaguely, of a fight on the way—

It didn't matter much, though. He'd made it, by a tight margin, and there would be a chance to get back at them after he reached his base again. Some day, the Japs would regret those little lead presents they'd been so willing to send down on a cripple plane and its occupants. They'd pay interest on those bullets.

The lieutenant landed then, released his parachute, and began forcing his way back to the camp to report for duty again. And far to the north, radios crackled and snapped in confusion that was tardily replaced by hasty assurances of another glorious victory by the fleet that had gone south to decide the war. But everywhere, the forces that had been so briefly disturbed went on their quiet ways as before, unnoticed, uncaring. They would be there, waiting, forever.

CALLING THE EMPRESS

By GEORGE O. SMITH

The trick of interplanetary communication will be a neat bit of gadgetry —but when someone has to send a communicator beam to an infinitesimal mote like a spaceship lost in several hundred sextillion cubic miles of nothing, they'll have to pull a real trick!

THE chart in the terminal building at Canalopsis Spaceport, Mars, was a huge thing that was the focus of all eyes. It occupied a thirty-by-thirty space in the center of one wall, and it had a far-flung iron railing about it to keep the people from crowding it too close, thus shutting off the view. It was a popular display, for it helped to drive home the fact that space travel was different from anything else. People were aware that their lives had been built upon going from one fixed place to another place, equally immobile. But in Interplanet travel one left a moving planet for another planet, moving at a different velocity. You found that the shortest distance was not a straight line but a space curve involving higher mathematics.

The courses being traveled at the time were marked, and those that would be traversed in the very near future were drawn upon the chart, too, all appropriately labeled. At a glance, one could see that in fifty minutes and seventeen seconds, the *Empress of Kolain* would take off from Mars, which was the red disk on the right; and she would travel along the curve so marked to Venus, which was almost one hundred and sixty degrees clockwise around the Sun. People were glad of the chance to go on this trip because the famous Relay Station would come within a telescope's sight on the way.

The *Empress of Kolain* would slide into Venus on the day side and a few hours later she would lift again to head for Terra, a few degrees ahead of Venus and about thirty million miles away.

Precisely on the zero-zero, the *Empress of Kolain* lifted upward on four tenuous pillars of dull-red glow and drove a hole in the sky. The glow was almost lost in the bright sunshine, and soon it died. The *Empress of Kolain* was a little world in itself, and would so remain until it dropped onto the ground at Venus, almost two hundred million miles away.

Driving upward, the *Empress of Kolain* could not have been out of the thin Martian atmosphere when a warning bell rang in the telephone and telespace office at the terminal. The bell caught official ears, and all work was stopped as the personnel of the communications office ran to the machine to see what was so important that the "immediate attention" signal was rung.

Impatiently the operator waited for the tape to come clicking from the machine. It came, letter by letter, click by click, at fifty words per minute. The operator tore the strip from the machine and read aloud: "Hold *Empress of Kolain.* Reroute to Terra direct. Will be quarantined at Venus. Whole planet in epidemic of Venusian Fever."

"Snap answer," growled Keg Johnson. "Tell 'em: 'Too little and too late. *Empress of Kolain* left thirty seconds before warning bell. What do we do now?' "

The operator's fingers clicked madly over the key board. Across space went the reply, across the void to the Relay Station. It ran through the Station's mechanism and went darting to Terra. It clicked out as sent in the offices of Interplanet Transport. A vice president read the message and swore roundly. He swore in three Terran languages, in the language of the Venusians, and even managed to visualize a few choice remarks from the Martian Pictographs that were engraved on the Temples of Canalopsis.

"Miss Deane," he yelled at the top of his voice. "Take a message! Shoot a line to Channing on Venus Equilateral. Tell him: '*Empress of Kolain* on way to Venus. Must be contacted and rerouted to Terra direct. Has million dollars' worth of Martian Line Moss aboard; will perish under quarantine. Spare no expense.' Sign that "Williams, Interplanet" ' "

"Yes, Mr. Williams," said the secretary. "Right away."

More minutes of light-fast communication.

Out of Terra to Luna, across space to Venus Equilateral Relay Station, the nerve center of Interplanetary Communications. The machines clicked and tape cleared from the slot. It was pasted neatly on a sheet of official paper, stamped *rush* and put in a pneumatic tube.

As Don Channing began to read the message, Keg Johnson on Mars was chewing worriedly on his fourth fingernail, and Vice-President Williams was working on his second. But Johnson had a head start and therefore would finish first. Both men knew that nothing more could be done. If Channing couldn't do it, nobody could.

Channing finished the 'gram and swore. It was a good-natured swear word, far from downright vilification, though it did consign certain items to the Nether Regions. He punched a button with some relish, and a rather good-looking woman entered. She smiled at him with more intimacy than a secretary should, and sat down.

"Arden, call Walt in, will you?"

Arden Wastphal smiled. "You might have done that yourself," she told him. She reached for the call button with her left hand, and the diamond on her fourth finger glinted like a pilot light.

"I know it," he answered, "but that wouldn't give me a chance to see you."

"Baloney," said Arden. "You just wait until next October. "I'll be in your hair all the time then."

"By then I may be tired of you," said Channing with a smile. "But until then, take it or leave it." His face grew serious, and he tossed the message across the table to her. "What do you think of that?"

Arden read, and then remarked: "That's a huge order, Don. Think you can do it?"

"It'll cost plenty. I don't know whether we can contact a ship in space. It hasn't been done to date, you know, except for short distances."

The door opened without a knock and Walt Franks entered. "Billing and cooing?" he asked. "Why do you two need an audience?"

"We don't," answered Don. "This was business."

"For want of evidence, I'll believe that. What's the dope?"

"Walt, what are the chances of hooking up with the *Empress of Kolain,* which is en route from Mars to Venus?"

"About equal to a celluloid snowball—you know where," said Franks, looking slyly at Arden.

"Take off your coat, Walt. We've got a job."

"You mean— Hey! Remind me to quit Saturday."

"This is dead in earnest, Walt." Don told the electronics engineer all he knew.

"Boy, this is a job that I wouldn't want my life to depend on. In the first place, we can't beam a transmitter at them if we can't see 'em. And in the second place, if we did, they couldn't receive us."

"We can get a good idea of where they are and how they're going," said Channing. "That is common knowledge."

"Astronomy is an exact science," chanted Franks. "But by the time we figure out just where the *Empress of Kolain* is with respect to us at any given instant we'll all be old men with gray beards. She's crossing toward us on a skew curve—and we'll have to beam it past Sol. It won't be easy, Don. And then if we do find them, what do we do about it?"

"Let's find them first and then work out a means of contacting them afterward."

"Don," interrupted Arden, "what's so difficult?"

Franks fell backward into a chair. Don turned to the girl and asked: "Are you kidding?"

"No. I'm just ignorant. What is so hard about it. We shoot beams across a couple of hundred million miles like nothing and maintain communications at any cost. What should be so hard about contacting a ship?"

"In the first place, we can see a planet, and they can see us, so they can hold their beams. A spaceship might be able to see us, but they couldn't hold a beam on us because of the side sway. We couldn't see them until they are right upon us and so we could not hope to hold a beam on them. Spaceships *might* broadcast, but you have no idea what the square law of radiated power will do to a broadcast signal when millions upon millions of miles are counted in. A half million watts on any planet will not quite cover the planet as a service area on broadcast frequencies. On short waves it will because of the skip distance. But for square-law dissipation, you can't count skip distances—and in space it would be a case of the signal losing in strength according to the inverse square of the distance. So they don't try it. A spaceship may as well be on Rigel as far as contacting her in space goes.

"We might beam a wide-dispersion affair at them," continued Channing. "But it would be pretty thin by the time it got

there. And, having no equipment, they couldn't hear us."

"May we amend that?" asked Franks. "They are equipped with radio. But the things are used only in landing operations where the distance is measured in miles, not Astronomical Units."

"O.K.," smiled Channing. "It's turned off during flight and we may consider the equipment as being non-existent."

"And, according to the chart, we've got to contact them before the turnabout," offered Arden. "They must have time to deflect their course to Terra."

"You think of the nicest complications," said Channing. "I was just about to hope that we could flash them or grab at 'em with a skeeter. But we can't wait until they pass us."

"That will be the last hope," admitted Franks. "But say! Did any bright soul think of shooting a fast ship after them from Canalopis?"

"Sure. The answer is the same as Simple Simon's answer to the Pieman: Alas, they haven't any!"

"No use asking why," growled Franks. "O.K., Don, we'll go after 'em. I'll have the crew set up a couple of mass detectors at either end of the station. We'll triangulate, and calculate, and hope to hit the right correction factor. We'll find them and keep them in line. You figure out a means of contacting them, huh?"

"*I'll* set up the detectors and *you* find the means," suggested Don.

"No go. You're the director of communications."

Don sighed a false sigh. "Arden, hand me my electronics text," he said.

"And shall I wipe your fevered brow?" cooed Arden.

"Leave him alone," directed Franks. "You distract him."

"It seems to me that you two are taking this rather lightly," said Arden.

"What do you want us to do? Get down on the floor and chew on the rug? You know better than that. If we can find the answer to contacting a spaceship in flight, we'll add another flower to our flag. But we can't do it by clawing through the first edition of Henney's 'Handbook of Radio Engineering.' It will be done by the seat of our pants if at all; a pair of sidecutters and a spool of wire, a hunk of string and a lump of solder, a—"

"A rag, a bone, and a hank of hair?" asked Franks.

"Leave Kipling out of this. He didn't have to cover the whole Solar System. So let's get cooking."

Don and Walt left the office just a trifle on the fast side. Arden looked after them, out through the open door, shaking her head until she remembered something that she could do. She smiled and went to her typewriter and pounded out a message back to Williams at Interplanet. It read: "Channing and Franks at work on contacting the *Empress of Kolain*. Will do our best." And she signed it: "Venus Equilateral."

Unknowing of the storm, the *Empress of Kolain* sped silently through the void, accelerating constantly at one gee. Hour after hour she was adding to her velocity, building it up to a speed that would make the trip in days, and not weeks. Her drivers flared dull red no more, for there was not atmosphere for the electronic stream to excite. Her few portholes sparkled with light, but they were nothing in comparison to the starry curtain of the background.

Her hull was of a neutral color, and though the sun glanced from her metal flanks, a reflection from a convex side is not productive of a beam of light. It spreads according to the degree of convexity and is soon lost.

What constitutes an apparent absence? The answer to that question is the example of a ship in space flight. The *Empress of Kolain* did not radiate anything detectable in the electromagnetic scale from ultralong waves to ultrahigh frequencies; nothing at all that could be detected at any distance beyond a few thousand miles. The sweep of her meteor-spotting equipment would pass a spot in micro-seconds at a hundred miles; at the distance from the Relay Station, the sweep of the beam would be curved like the stream of water from a swung hose and therefore useless for direction finding, even though the Station's excellent equipment could pick up the signal. And so fleeting would be the touch of the spotting beam that the best equipment ever known or made would have no time to react, thus marking the signal.

Theorists claim a thing unexistent if it cannot be detected. The *Empress of Kolain* was invisible. It was undetectable to radio waves. It was in space, so no physical wave could be transmitted to be depicted as sound. Its mass was inconsiderable. Its size was comparatively sub-microscopic, and therefore it would occult few, if any, stars. Therefore, to all intents and purposes, the

Empress of Kolain was non-existent, and would remain in that state of material-non-being until it came to life again upon its landing at Venus.

Yet the *Empress of Kolain* existed in the minds of the men who were to find her. Like the shot unseen, fired from a distant cannon, the *Empress of Kolain* was coming at them with ever-mounting velocity, its unseen course a theoretical curve.

And the ship, like the projectile, would land if the men who knew of her failed in their purpose.

Don Channing and Walt Franks found their man in the combined dining room and bar—the only one in many million miles. They surrounded him, ordered a sandwich and beer, and began to tell him their troubles.

Charles Thomas listened for about three minutes. "Boy," he grinned, "being up in that shiny, plush-lined office has sure done plenty to your think-tank, Don."

Channing stopped talking. "Proceed," he said. "In what way has my perspective been warped."

"You talk like Burnbank," said Thomas, mentioning a sore spot of some months past. "You think a mass detector would work at this distance? Nuts, fellow. It might, if there were nothing else in the place to interfere. But you want to shoot out near Mars. Mars is on the other side of the Sun—an Evening Star to anyone on Terra. You want us to shoot a slap-happy beam like the mass detector out past Sol; and then a hundred and forty million miles beyond in the faint hope that you can triangulate upon a little mite of matter; a stinking six hundred-odd feet of aluminum hull mostly filled with air and some machinery and so on. Brother, what do you think all the rest of the planets will do to your little piddling beam? Retract, or perhaps abrogate the law of universal gravitation?"

"Crushed," said Franks with a sorry attempt at a smile.

"Phew!" agreed Channing. "Maybe I should know more about mass detectors."

"Forget it," said Charles. "The only thing that mass detectors are any good for is to conjure up beautiful bubble dreams, which anybody who knows about 'em can break with the cold point of icy logic."

"What would you do?" asked Channing.

"Darned if I know. We might flash 'em with a big mirror—if we had a big mirror and they weren't heading right into the Sun."

"Let's see," mused Franks, making tabulations on the tablecloth. "They're a couple of hundred million miles away. In order that your mirror present a recognizable disk, it should be about twice the diameter of Venus as seen from Terra. That's eight thousand miles in—at best visibility—say, eighty million or a thousand-to-one ration. The *Empress of Kolain* is heading at us from some two hundred million, so, at a thousand-to-one ratio our mirror would have to be twenty thousand miles across. Some mirror!"

Don tipped Walt's beer over the edge of the table, and while the other man was busy mopping up and muttering unprintables, Don said to Thomas: "This is serious and it isn't. Nobody's going to lose their skin if we don't, but a problem has been put to us and we're going to crack it if we have to skin our teeth to do it."

"You can't calculate their position?"

"Sure. Within a couple of thousand miles we can. That isn't close enough."

"No, it isn't," agreed Chuck.

Silence fell for a minute. It was broken by Arden, who came in waving a telegram. She sat down and appropriated Channing's glass, which had not been touched. Don opened the sheet and read: "Have received confirmation of your effort. I repeat, spare no expense!" It was signed: "Williams, Interplanet."

Does that letter offer mean anything to you?" asked Arden.

"Sure," agreed Don. "But at the time we're stumped. Should we be doing something?"

"Anything, I should think, would be better than what you're doing at present. Or does that dinner-and-beer come under the term 'Expenses'?"

Arden stood up, tossed Channing's napkin at him, and started toward the door. Channing watched her go, his hand making motions on the tablecloth. His eyes fell to the table and he took Franks' pencil and drew a long curve from a spot of gravy on one side of the table to a touch of coffee stain on the other. The curve went through a bit of grape jelly near the first stain.

"Here goes the tablecloth strategist," said Franks. "What now, little man?"

"That spot of gravy," explained Don, "is Mars. The jelly is the *Empress of Kolain.* Coffee stain is Venus, and up here by this cigarette burn is Venus Equilateral. Get me?"

"Yop, that's clear enough."

"Now it would be the job for seventeen astronomers for nine weeks to predict the movement of the jelly spot with respect to the usual astral standards. But, fellows, we know the acceleration of the *Empress of Kolain,* and we know her position with respect to the orbit of Mars at the instant of take-off. We can correct for Mars' advance along her—or his—orbit. We can figure the position of the *Empress of Kolain* from her angular distance from Mars! That's the only thing we need know. We don't give a ten-dollar damn about her true position."

Channing began to write equations on the tablecloth. "You see, they aren't moving so fast with respect to us. The course is foreshortened as they are coming almost in line with Venus Equilateral, curving outward and away from the Sun. Her course, as we see it from the Station here, will be a long radius upward curve, slightly on the parabolic side. Like all long-range cruises, the *Empress of Kolain* will hoist herself above the plane of the ecliptic to avoid the swarm of meteors that follow about the Sun in the same plane as the planets, lifting the highest at the point of greatest velocity."

"I get it," said Franks. "We get the best beam controller we have to keep the planet on the cross hairs. We apply a spiral cam to advance the beam along the orbit. Right?"

"Right." Don sketched a conical section on the tablecloth and added dimensions. He checked his dimensions against the long string of equations, and nodded. "We'll drive this cockeyed-looking cam with an isochronic clock, and then squirt a beam out there. Thank the Lord for the way our beam transmitters work."

"You mean the effect of reflected waves?" asked Chuck.

"Sure. They're like light—only they ain't. We're going to use a glorified meteor detector. We'll control the spread and dispersion so that we cover a healthy hundred miles or so, which will give us sufficient power, I believe. If not, we'll have to tighten the beam. At any rate, spreading from a point source to an object of a given dimension, the waves rebound as though the object were a plane mirror. That will give us a dispersion of twice the dimension of the *Empress of Kolain's* planar projection through this axis. Twelve hundred feet isn't much, but once we get her on the beam and have confirmation, we can forget the rebound. We'll have her pinned."

"And then?" asked Franks.

"Then we will have left the small end, which I'll give to you, Walt, so that you can have part of the credit."

Walt shook his head. "The easy part," he said uncheerfully. "By which you mean the manner in which we contact them and make them listen to us?"

"That's her," said Don with a cheerful smile.

"Fine!" said Thomas. "Now what do we do?"

"Clear up this mess so we can make the cam. This drawing will do, just grab the tablecloth."

Joe, the operator of Equilateral's one and only establishment for the benefit of the stomach, came up as the three men began to move their glasses and dishes over to an empty table. "What makes with the tablecloth?" he asked. "Don't you want a piece of carbon paper and another tablecloth?"

"No," said Don nonchalantly. "This single copy will do."

"We lose lots of tablecloths that way," said Joe. "It's tough, running a restaurant on Equilateral. I tried using paper ones once, but that didn't work. I had 'em printed, but when the Solar System was on 'em, you fellows drew schematic diagrams for a new coupler circuit. I put all kinds of radio circuits on them, and the gang drew plans for antenna arrays. I gave up and put pads of paper on each table, and the boys used them to make folded paper airplanes and they shot them all over the place. Why don't you guys grow up?"

"Cheer up, Joe. But if this tablecloth won't run through the blueprint machine, we'll squawk!"

Joe looked downcast, and Franks hurried to explain: "It isn't that bad, Joe. We won't try it. We just want to have these figures so we won't have to run through the math again. We'll return the cloth."

"Yeah," said Joe at their retreating figures. "And for the rest of its usefulness it will be full of curves, drawings, and a complete set of astrogating equations." He shrugged his shoulders and went for a new tablecloth.

Don, Walt, and Charles took their improvised drawing to the machine shop, where they put it in the hands of the master mechanic.

"This thing has a top requirement," Don told him. "Make it as quick as you can."

Master Mechanic Walton took the cloth

and said: "You forgot the note. You know, 'Work to dimensions shown, do not scale this drawing.' Lord, Don, this silly-looking cam will take a man about six hours to do. It'll have to be right on the button all over, no tolerance. I'll have to cut it to the 'T' and then lap it smooth with polishing compound. Then what'll you test it on?"

"Sodium light interferometer. Can you do it in four hours?"

"If nothing goes wrong. Brass all right?"

"Anything you say. It'll only be used once. Anything of sufficient hardness to withstand a single usage will do."

"I'll use brass then. Or free-cutting steel may be better. If you make it soft you have the chance of cutting too much off with your lapping compound. We'll take care of it, Don. The rest of this stuff isn't too hard. Your framework and so on can be whittled out and pasted together from standard girders, right?"

"Sure. Plaster them together any way you can. And we don't want them painted. As long as she works, phooey to the looks."

"Fine," said Walton. "I'll have the business installed in the Beam Control Room in nine hours. Complete and ready to work."

"That nine hours is a minimum?"

"Absolutely. After we cut and polish that screwball cam, we'll have to check it, and then you'll have to check it. Then the silly thing will have to be installed and it's concentricity must be checked to the last wave length of cadmium light. That'll take us a couple of hours, I bet. The rest of the works will be ready, checked, and waiting for the ding-busted cam."

"Yeah," agreed Franks. "Then we'll have to get up there with our works and put the electricals on the mechanicals. My guess, Don, is a good, healthy twelve hours before we can begin to squirt our signal."

Twelve hours is not much in the life of a man; it is less in the life of a planet. The Terran standard of gravity is so small that it is expressed in feet per second. But when the two are coupled together as a measure of travel, and the standard Terran gee is applied for twelve hours steady, it builds up to almost three hundred miles per second, and by the end of that twelve hours, six million miles have fled into the past.

Now take a look at Mars. It is a small, red mite in the sky, its diameter some four thousand miles. Sol is eight hundred thousand miles in diameter. Six million miles from Mars, then, can be crudely expressed by visualizing a point eight times the diameter of the Sun away from Mars, and you have the distance that the *Empress of Kolain* had come from Mars.

But the ship was heading in at an angle, and the six million miles did not subtend the above arc. From Venus Equilateral, the position of the *Empress of Kolain* was more like two diameters of the Sun from Mars, slightly to the north and on the side away from Sol.

It may sound like a problem for the distant future, this pointing a radio beam at a planet, but it is no different than Galileo's attempts to see Jupiter through his Optik Glass. Of course, it has had refinements that have enabled men to make several hundred hours of exposure of a star on a photographic plate. So if men can maintain a telescope on a star, night after night, to build up a faint image, they can also maintain a beamed transmission wave on a planet.

All you need is a place to stand; a firm, immobile platform. The three-mile-long, one-mile-diameter mass of Venus Equilateral offered such a platform. It rotated smoothly, and upon its 'business' end a hardened and highly polished set of rails maintained projectors that were pointed at the planets. These were parabolic reflectors that focused ultrahigh-frequency waves into tight beams which were hurled at Mars, Terra, and Venus for communication.

And because the beams were acted upon by all of the trivia in the Solar System, highly trained technicians stood their tricks at the beam controls, correcting by sensitive verniers any deviation of the beams. In fifty million miles, even the bending of electromagnetic waves by the Sun's mass had to be considered. Sunspots made known their presence. And the vagaries of land transmission were present in a hundred ways due to the distance and the necessity of concentrating every milliwatt of available power on the target.

This problem of the *Empress of Kolain* was different. Spaceships were invisible, therefore the beam-control man must sight on Mars and the mechanical cam would keep the ship in sight of the beam.

The hours went past in a peculiar mixture of speed and slowness. On one hand the minutes sped by swiftly and fleetingly, each tick of the clock adding to the lost moments, never to be regained. Time, being

precious, seemed to slip through their fingers like sifting sand.

On the other hand, the time that must be spent in preparation of the equipment went slow. Always it was in the future, that time when their experiment must either prove a success or a failure. Always there was another hour of preparatory work before the parabolic reflector was mounted; and then another hour before it swung freely and perfectly in its new mounting. Then the minutes were spent in anticipation of the instant that the power stage of the transmitter was tested and the megawatts of ultra-high-frequency energy poured into the single rod that acted as a radiator.

It was a singularly disappointing sight. The rod glowed not, and the reflector was the same as it was before the rod drew power. But the meters read and the generators moaned, and the pyrometers in the insulators mounted as the losses converted the small quantity of energy into heat. But the rod drew power, and the parabolic reflector beamed that power into a tight beam and hurled it out on a die-true line.

Invisible power that could be used in communications.

Then the cam was installed. The time went by even slower then, because the cam must be lapped and polished to absolute perfection, not only of its own surface but to absolute concentricity to the shaft on which it turned.

But eventually the job was finished, and the men stood back, their eyes expectantly upon Don Channing and Walt Franks.

Don spoke to the man chosen to control the beam. "You can start any time now. Keep her knifed clean, if you can."

The man grinned at Channing. "If the devils that roam the void are with us we'll have no trouble. We should all pray for a phrase used by some characters in a magazine I read once: 'Clear ether!' We could use some right now."

He applied his eyes to the telescope. He fiddled with the verniers for a brief time, made a major adjustment on a larger handwheel, and then said, without removing his eye from the 'scope. "That's it, Dr. Channing."

Don answered: "O.K., Jim, but you can use the screen now. We aren't going to make you squint through that pipe for the next few hours straight."

"That's all right. I'll use the screen as soon as we can prove we're right. Ready?"

"Ready," said Channing.

Franks closed a tiny switch. Below, in the transmitter room, relays clicked and heavy-duty contacts closed with blue fire. Meters began to climb upward across their scales, and the generators moaned in the descending whine. A shielded monitor began to glow, indicating that full power was vomiting from the mouth of the reflector.

And out from the projector there went, like a spearhead, a wavefront of circularly polarized microwaves. Die-true they sped, crossing the void like a line of sight to an invisible spot above Mars and to the left. Out past the Sun, where they bent inward just enough to make Jim's job tough. Out across the open sky they sped at the velocity of light, and taking sixteen minutes to get there.

Would it—or wouldn't it?

A half-hour passed. "Now," said Channing. "Are we?"

Ten minutes went by. The receiver was silent save for a constant crackle of cosmic static.

Fifteen minutes passed.

"Nuts," said Channing. "Could it be that we aren't quite hitting them?"

"Could be," admitted Franks. "Jim, waggle that beam a bit, and slowly. When we hit 'em, we'll know it because we'll hear 'em a half-hour later. Take it easy and slowly. We've used up thirteen of our fifty-odd hours. We can use another thirty or so just in being sure."

Jim began to make the beam roam around the invisible spot in the sky. He swept the beam in microscopic scans, up and down, and advancing the beam by one half of its apparent width at the receiver for each sweep.

Two more hours went by. The receiver was still silent of reflected signals.

It was a terrific strain, this necessary wait of approximately a half-hour between each minor adjustment and the subsequent knowledge of failure. Jim gave up the 'scope because of eyestrain, and though Don and Walt had confidence that the beam-control man was competent to use the cross-ruled screen to keep Mars on the beam, Jim was none too sure of himself, and so he kept checking the screen against the 'scope.

At the end of the next hour of abject failure, Walt Franks began to scribble on a pad of paper. Don came over to peer over Franks' shoulder, and because he couldn't read Walt's mind, he was forced to ask what the engineer was calculating.

"I've been thinking," said Franks.

"Beginner's luck?" asked Don with a grin.

"I hope not. Look, Don, we're moving on the orbit of Venus, at Venus' orbital velocity. Oh, all right, say it scientifical: We're all three, Venus, Sol, and Venus Equilateral, at the corners of an equilateral triangle, and will forever remain, barring outside influences. So that means we're running around a common point, the common center of gravity—which can be construed to mean that we are circling Sol at Venus' speed, or twenty-one point seven five miles per second. Now our beam is curved because of the angular velocity, just like a swung hose. However, it hits the *Empress of Kolain* at an angle as though we were a thousand feet away. That's fine. But the reflected wave starts back at that angle, right back through the beam, remember?"

"I get it!" shouted Don in glee. "Thirty-two seconds at twenty-one point seven miles per second gives us seven hundred and sixteen miles to the rear. Walt, get your mechanical gang to hitch us up a couple of mirrors—say a yard in diameter. Put 'em so that they can be used as a range finder. Set the angles for seven hundred and sixteen miles; a three-mile base line should do it, I'm sure; and then we'll shoot us a skeeter out there with a detector. Get carving!"

"Shall Jim stop?" asked Walt.

"How long will it take to rig us a range finder?"

"Hour, God willing."

"Jim, get a relief for a half-hour. We'll keep the beam centered. Then he can take over when the going gets critical again."

The mounting of two mirrors at either end of Venus Equilateral gave little trouble. It was the amount of detailed work that consumed the time. There were girders to be cut and welded together. The hundred-odd doorways that centered on the axis of Venus Equilateral had to be opened and the clear, light path had to be cleared of packing cases, supplies, and in a few cases machinery had to be partially dismantled to clear the way. A good portion of Venus Equilateral's personnel of three thousand were taken off their jobs, baled out of bed for the emergency, or made to work through their play period.

The machinery could be replaced, the central storage places could be refilled, and the many doors closed again. But the central room containing the air plant was no small matter. Channing took a sad look at the lush growth of Martian saw grass and sighed. It was growing nicely now, they had nurtured it into lusty growth from mere sprouts in trays and it was as valuable—precisely—as the lives of the three thousand-odd that lived, loved, and pursued happiness on Venus Equilateral. It was a youthful plant, a replacement brought in a tearing hurry from Mars to replace the former plant that was heaved into the incinerator by a well-meaning but ignorant man who thought that an air plant must be huge, moving levers, whirling gears, bubbling retorts, and a sprig of parsley.

Channing closed his eyes and shuddered in mock horror. "Chop out the center," he said.

The "center" meant the topmost fronds of the long blades; their roots were embedded in the trays that filled the cylindrical floor. Some of the blades would die—Martian saw grass is tender in spite of the wicked spines that line the edge—but this was an emergency with a capital E.

Cleaning the centermost channel out of the station was no small job. The men who put up Venus Equilateral had no idea that someone would be using the station for a sighting tube some day. The many additions to the station through the years made the layout as regular and as well-planned as the Mammoth Cave in Kentucky.

So for hour upon hour, men swarmed in the central, weightless channel and wielded acetylene torches, cutting steel. Not in all cases, but there were many. In three miles of storage rooms, a lot of doors and bulkheads can be thrown up without crowding the size of the individual rooms.

Channing spoke into the microphone at the North end of Venus Equilateral, and said: "Walt? We've got a sight. Can you see?"

"Yop," said Walt. "And say, what happens to me after that bum guess?"

"That was quite a stretch, Walt. That 'hour, God willing,' worked itself into four hours, God help us."

"O.K., so I was optimistic. I thought that those doors were all on the center line."

"They are supposed to be, but they aren't huge and misalignment can do a lot of light-stopping. Can we jungle mirrors now?"

"Sure as shooting. Is Freddy out in the flitter?"

"He says he is guessing that he is at the right distance now. I'm set at a right angle now"—Don began to fumble through a volume of Vega's "Logarithms and Trigo-

nometrical Functions"—"eight-nine degrees, forty-five minutes, and forty seconds. Can you set your mirror that close?"

"Nope," answered Walt without a qualm. "Not a chance. I can hit it about ten seconds plus or minus, though."

"Make it plus nothing, minus twenty," said Don. "I was playing by ear, this time on account of my slipstick is busted."

"Such a lot of chatter," returned Walt, "don't mean a thing. While you've been gabbing about your prowess with a busted slide rule I've been setting my glass. You can cook with glass now."

"Brother," groaned Channing, "if I had one of those death rays that the boys were crowing about back in the days before space hopping became anything but a bit of fiction, I'd scorch your ears—or burn 'em off—or blow holes in you—or disintegrate you—depending on what stories you read. I haven't heard such a lousy pun in seventeen years— Hey, Freddy, you're a little close. Run out a couple of miles, huh?

There was a click in the phones and a cheerful voice chimed in with: "Good morning, fellows? What's with the Great Quest?"

Channing answered, "Hi, Babe. Been snoozing?"

"Sure, as any sensible person would. Have you been up all the time?"

"Yeah. We're still up against the main trouble with telephones—the big trouble, same as back in 1877—our friends have no telephone! You'd be surprised how elusive a spaceship can be in the deep. Sort of a nonexistent, microscopic speck, floating in absolutely nothing. We have a good idea of where they should be, and possibly why and what—but we're really playing with blindfolds, handcuffs, ear plugs, mufflers, nose clamps, and tongue-ties. I am reminded—Hey, Freddie, lift her north about three hundred yards—of the two blind men."

"Never mind the blind men," came back the pilot. "How'm I doing?"

"Fine. Slide out another hundred yards and hold her there."

"Who—me? Listen, Dr. Channing, you're the bird on the tapeline. You have no idea just how insignificant you look from seven hundred and sixteen miles away. Put a red-hot on the 'finder and have 'im tell me where the ship sits!"

"O.K., Freddy, you're on the beam and I'll put a guy on here to give you the dope. Right?"

"Right," echoed Arden. "And I'm going to bring you a slug of coffee and a roll. Or did you remember to eat recently?"

"We didn't," chimed in Walt.

"You get your own girl," snorted Channing. "And besides, you are needed up here. We've got work to do."

Once again the signal lashed out. The invisible waves drove out and began their swift run across the void. Time, as it always did during the waiting periods, hung like a Sword of Damocles. The half-hour finally ticked away, and Freddy called in: "No dice. She's as silent as the grave."

Minutes added together into an hour. The concentric wave left the reflector and just dropped out of sight.

"Too bad you can't widen her out," suggested Don.

"I'd like to tighten it down," objected Walt. "I think we're losing power and we can't increase the power—but we could tighten the beam."

"Too bad you can't wave it back and forth like a fireman squirting water on a lawn," said Arden.

"Firemen don't water lawns—" began Walt Franks, but he was interrupted by a wild yell from Channing.

"Something hurt?" asked Arden.

"No. Walt, we can wave the beam."

"Until we find 'em? We've been trying that. No worky."

Freddy called in excitedly: "Something went by just now and I don't think it was Christmas!"

"We might have hit 'em a dozen times in the last ten minutes and we'll never know it," said Channing. But the spaceliners can be caught. Let's shoot at them like popping ducks. Shotgun effect. Look, Walt, we can electronically dance the beam at a high rate of speed, spraying the neighborhood. Freddy can hear us return because we have to hit them all the time and the waver coming on the way back will pass through his position again and again. We'll set up director elements in the reflector, distorting the electrical surface of the parabolic reflector. That'll divert the beam. By making the phases swing right, we can scan the vicinity of the *Empress of Kolain* like a flying-spot television camera."

Walt turned to one of the technicians and explained. The man nodded. He left for Franks' laboratory and Walt turned back to his friends.

"Here shoots another couple of hours. I, for one, am going to grab forty winks."

Jim, the beam-control man, sat down and lighted a cigarette. Freddy let his flitter

coast free. And the generators that fed the powerful transmitter came whining to a stop. But there was no sleep for Don and Walt. They kept awake to supervise the work, and to help in hooking up the phase-splitting circuit that would throw out-of-phase radio frequency into the director-elements to swing the beam.

Then once again the circuits were set up. Freddy found the position again and began to hold it. The concentric beam hurled out again, and as the phase-shift passed from element to element, the beam swept through an infinitesimal arc that covered thousands of miles of space by the time the beam reached the position occupied by the *Empress of Kolain.*

Like a painter, the beam painted in a swipe a few hundred miles wide and swept back and forth, each sweep progressing ahead of the stripe before by less than its width. It reached the end of its arbitrary wall and swept back to the beginning again, covering space as before. Here was no slow, irregular swing of mechanical reflector, this was the electronically controlled wavering of a stable antenna.

And this time the half-hour passed slowly but not uneventfully. Right on the tick of the instant, Freddy called back: "Got 'em."

It was a weakling beam that came back in staccato surges. A fading, wavering, spotty signal that threatened to lie down on the job and sleep. It came and it went, often gone for seconds and never strong for so much as an instant. It vied, and almost lost completely, with the constant crackle of cosmic static. It fought with the energies of the Sun's corona and was more than once the underdog. Had this returning beam carried intelligence of any sort it would have been wasted. About all that could be carried on a beam as sorry as this was the knowledge that there was a transmitter—and that it was transmitting.

But its raucous note synchronized with the paint-brush wiping of the transmitter. There was no doubt.

Don Channing put an arm around Arden's waist and grinned at Walt Franks. "Go to work, genius. I've got the *Empress of Kolain* on the pipe. You're the bright-eyed lad that is going to wake 'em up! We've shot almost twenty hours of our allotted fifty. Make with the megacycles, Walter, Arden and I will take in a steak, a moom pitcher, and maybe a bit of woo. Like?" he asked the girl.

"I like," she answered.

Walt Franks smiled and stretched lazily. He made no move to the transmitter. "Don't go away," he cautioned them. "Better call up Joe and order beer and sandwiches for the boys in the back room. On you!"

"Make with the signals first," said Channing. "And lay off the potables until we finish this silly job."

"You've got it. Is there a common, garden variety, transmitting key in the place?"

"Probably. We'll have to ask. Why?"

"Ask me."

Don removed his arm from Arden's waist. He picked up a spanner and advanced upon Franks.

"No!" objected Arden. "Poison him—I can't stand the sight of blood. Or better, bamboo splinters under the fingernails. He knows something simple, the big bum!"

"Beer and sandwiches?" asked Walt.

"Beer and sandwiches," agreed Don. "Now, Tom Swift, what gives?"

"I want to key the inner component of the beam. Y' see, Don, we're using the same frequency, by a half dozen megacycles, as their meteor spotter. I'm going to retune the inner beam to their frequency and key it. Realize what'll happen?"

"Sure," agreed Don, "but you're still missing the boat. You can't transmit keyed intelligence with an intermittent contact."

"In words, what do you mean, Don?"

"International Code is a series of dots and dashes, you may know. Our wabbling beam is whipping through the area in which the *Empress of Kolain* is passing. Therefore the contact is intermittent. And how could you tell a dot from a dash?"

"Easy," bragged Walt Franks. "We're not limited as to the speed of deviation, are we?"

"Yes—limited by the speed of the selsyn motors that transfer the phase-shifting circuits to the director radiators. Yeah, I get it, Edison, and we can wind them up to a happy six or eight thousand r. p. m. Six would get us a hundred cycles per second—a nice, low growl."

"And how will they receive that kind of signal on the meteor spotter?" asked Arden.

"The Officer of the Day will be treated to the first meteor on record that has intermittent duration—it is there only when it spells in International Code!"

Prying the toy transmitting key from young James Burke was a job only surpassed in difficulty by the task of opening the vault of the Interplanetary Bank after

working hours. But Burke, Junior, was plied with soda pop, ice cream and candy. He was threatened, cajoled, and finally bribed. And what Interplanetary Communications paid for the toy finally would have made the manufacturer go out and look for another job. But Walt Franks carried the key to the scene of operations and set it on the bench to look at it critically.

"A puny gadget, at that," he said, clicking the key. "Might key a couple of hundred watts with it—but not too long. She'd go up like a skyrocket under our load!"

Walt opened a cabinet and began to pull out parts. He piled several parts on a bread board, and in an hour had a very husky thyraton hooked into a circuit that was simplicity itself. He hooked the thyraton into the main power circuit and tapped the key gingerly. The transmitter followed the keyed thyraton and Don took a deep breath.

"Do you know code?" he asked.

"Used to. Forgot it when I came to Venus Equilateral. Used to hold a ham ticket on Terra. But there's no use in hamming on the station here where you can work somebody by yelling at the top of your voice. The thing to ask is, 'Does anybody know code on board the *Empress of Kolain?*"

They forgot their keying circuit and began to adjust the transmitter to the frequency used by the meteor spotter. It was a job. But it was done, all the way from the master oscillator stage through the several frequency doubler stages and to the big power-driver stage. The output stage came next, and then a full three hours of tinkering with files and hacksaws were required to adjust the length of the main radiator, and the director elements so that their length became right for the changed frequency.

Finally Walt took the key and said: "Here goes!"

He began to rattle the key. In the power room, the generators screamed and the lights throughout the station flickered just a bit at the sudden surges.

Don Channing said to Arden: "If someone on the *Empress of Kolain* can understand code—"

The *Empress of Kolain* was zipping along in its silent passage through the void. It was an unseen, undetected, unaware bit of human manufacture marking man's will among the stars. In all the known universe it moved against the forces of celestial mechanics because some intelligent mote that infested the surface of a planet once had a longing to visit the stars. In all the Solar System, most of the cosmic stuff was larger than it—but it alone defied the natural laws of space

Because it alone possessed the required *outside force* spoken of in Newton's "Universal Laws."

And it was doing fine.

Dinner was being served in the dining room. A group of shapely girls added grace to the swimming pool on the promenade deck. The bar was filled with a merry crowd which in turn were partly filled with liquor. A man in uniform, the Second Officer, was throwing darts with a few passengers in the playroom, and there were four oldish ladies on sabbatical leave who were stricken with *mal-de-void.*

The passage up to now had been uneventful. A meteor or two had come to make the ship swing a bit—but the swerve was less than the pitch of an ocean vessel in a moderate sea and it did not continue as did an ocean ship. Most of the time the *Empress of Kolain* seemed as steady as solid rock.

Only the First Officer, on the bridge, and the Chief Pilot, far below in the control room, knew just how erratic their course truly was. But they were not worried. They were not a shell, fired from a gun; they were a spaceship, capable of steering themselves into any port on Venus when they arrived and the minute wobbulations in their course could be corrected when the time came. For nothing that had come across the universe yet had ever prevented the ship of space from seeing where it was going.

Yes, it was uneventful.

Then the meteor screen flashed into life. A circle of light appeared in the celestial dome and the ship automatic pilot swerved ever so little. The dot of light was gone.

Throughout the ship, people laughed nervously. A waiter replaced a glass of water that had been set too close to the edge of the table and a manly-looking fellow dived into the swimming pool to haul a good-looking blonde back to the edge again. She'd been in the middle of a swan dive when the swerve came and the ship had swerved without her. The resounding smack of feminine stomach against the water was of greater importance than the meteor, now so many hundred miles behind.

The flash of light returned and the ship swerved again. Upon the third swerve, the First Officer was watching the celestial globe with suspicion. He went white. It was conceivable that the *Empress of Kolain* was about to encounter a meteor shower.

And that was bad.

He marked the place and set his observation telescope in synchronism with the celestial globe. There was nothing but the ultimate starry curtain in the background. He snapped a switch and the voice of the pilot came out of a speaker in the wall.

"You called, Mr. Hendall?"

"Tony, take the levers, will you please?" Something is rotten in the State of Denmark."

"O.K., sir, I'm riding personal."

"Kick out the meteor-spotter coupling circuits and forget the alarm."

"Right, Mr. Hendall, but will you confirm that in writing?"

Hendall scribbled on the telautograph and then abandoned the 'scope. The flashing in the celestial globe continued, but the ship no longer danced in its path.

The big twenty-inch Cassegrain showed nothing at all, and Hendall returned to the bridge scratching his head. Nothing on the spotting 'scope and nothing on the big instrument.

That intermittent spot was large enough to mean a huge meteor. But wait. At their speed, it should have retrogressed in the celestial globe unless it was so huge and so far away—but Sol didn't appear on the globe and it was big and far away, bigger by far. Nothing short of a planet at less-than-planetary distances would do this.

Not even a visible change in the position of the spot.

"Therefore," thought Hendall, "this is no astral body that makes this spot!"

Hendal went to a cabinet and withdrew a cable with a plug on either end. He plugged one end into the test plug on the meteor spotter and the opposite end into a speaker. A low humming emanated from the speaker in synchronism with the flashing of the celestial globe.

It hit a responsive chord.

Hendall went to the main communication microphone and spoke. His voice went all over the *Empress of Kolain* from pilot room and cargo spaces to swimming pool and infirmary.

"Attention!" he said in a formal tone. "Attention to official orders!"

Dancers stopped in midstep. Swimmers paused and then made their way to the edges of the pool and sat with their feet dangling in the warm water. Diners sat with their forks poised foolishly.

"Official orders!" That meant an emergency.

Hendall continued: "I believe that something never before tried is being attempted. I am forced against my better knowledge to believe that some agency is trying to make contact with us; a spaceship in flight! This is unknown in the annals of space flying and is, therefore, indicative of something important. It would not have been tried without preparations unless an emergency exists.

"However, the requirements of an officer of space do not include a knowledge of code because of the lack of communication with the planets while in space. Therefore, I request that any person with a working knowledge of International Morse will please present himself to the nearest officer."

Minutes passed. Minutes during which the flashing lights continued.

Then the door of the bridge opened and Third Officer Jones entered with a thirteen-year-old boy at his heels. The youngster's eyes went wide at the sight of the instruments on the bridge, and he looked around in amazed interest.

"This is Freddy Thomas," said Jones. "He knows code!"

"Go to it, Mr. Thomas," said Hendall.

The boy swelled visibly. You could almost hear him thinking: "He called me 'mister'!"

Then he went to the table by the speaker and reached for pencil and paper. "It's code all right," he said. Then Freddy winked at Jones. "He has a lousy fist!"

Freddy Thomas began to write.

"—course and head for Terra direct"—the beam faded for seconds—"Venusian fever and you will be quarantined.

"Calling CQ, calling CQ, calling CQ. Calling *Empress of Kolain* . . . empowered us to contact you and convey . . . message—You are requested to correct your course and head . . . a plague of Venusian fever and you—Williams of Interplanet has empowered us . . . the following message: 'You are requested to correct your . . . head for Terra direct.' Calling C.Q. . . . ."

"Does that hash make sense to you?" asked Jones of Hendall.

"Sure," smiled Hendall, "it is fairly plain. It tells us that Williams of Interplanet wants

us to head for Terra direct because of a plague of Venusian fever that would cause us to stay in quarantine. That would ruin the Line Moss. Prepare to change course, Mr. Jones!"

"Who could it be?" asked Jones foolishly.

"There is only one outfit in the Solar System that could possibly think of a stunt like this. And that is Channing and Franks of Interplanetary Communications. This signal came from Venus Equilateral."

"Wait a minute," said Freddy Thomas. "Here's some more."

" 'As soon as this signal—intelligible—at right angles to your course for ten minutes. That will take—out of—beam and reflected —will indicate to us—left the area and know of our attempt.' "

"They're using a beam of some sort that indicates to them that we are on the other end but we can't answer. Mr. Jones, and Pilot Canton, ninety degrees north for ten minutes! Call the navigation officer to correct our course. I'll make the announcement to the passengers. Mr. Thomas, you are now given the freedom of the bridge."

Mr. Thomas was overwhelmed. He'd learn plenty—and that would help him when he applied for training as a space officer; unless he decided to enter to take a position with Interplanetary Communications.

The signal faded from the little cruiser and silence prevailed. Don spoke into the microphone and said: "Run her up a millisecond," to the beam controller. The beam wiped the space above the previous course for several minutes and Franks was sending furiously:

"You have answered our message. We'll be seeing you."

Channing told the man in the cruiser to return. He kicked the main switch and the generators whined down the scale and coasted to a stop. Tube filaments darkened and meters returned to zero.

"O.K., Walton. Let the spinach lay. Get the next crew to clean up the mess and polish the set-up into something presentable. I'll bet a cooky that we'll be chasing spaceships all the way to Pluto after this. We'll work it into a fine thing and perfect our technique. Right now I owe the gang a dinner, right?"

Nothing ever happens at Venus Equilateral. The weather is always right. It never rains or storms. There is no icy street nor heat-waved plain. There is no mud. There is no summer, no winter, no spring, no fall. People ice skate and swim in adjacent rooms. There is no moon to enchant for the moon is millions of miles away. There is no night or day and the stars blaze out in the same sky with the sun; and it has been said that on Venus Equilateral you have been in the only place where the Clouds of Magellan and Polaris can be seen at the same time from your living-room window.

Venus Equilateral is devoted to the business of supplying communication between the three inner planets. As such, it is more than worth it. And though electromagnetic waves travel with the speed of light in vacuo, Channing and his crew were fast asleep by the time that Williams, of Interplanet, read the following message:

EMPRESS OF KOLAIN CONTACTED AND MESSAGE CONVEYED. SHIP WILL PUT IN AT TERRA AS PER YOUR REQUEST. YOURS FOR BETTER COMMUNICATIONS.

DON CHANNING.

SEA OF MYSTERY—*Continued from page* 46

rivers. Obviously the sargassum weed has nothing to do with it, the breeding takes place far below this surface phenomenon. When the young Leptocephali are already nearly three tenths of an inch or so long, they are still found one thousand feet below the surface.

Do these habits of the eels point to the theory that the continents drifted apart in geologic times, that the Atlantic is only a "crack" between the Old World and the New and that the home of the eel was always the bottom below the Sargasso Sea? It does look like it, but it is probably not true just the same, there are too many weighty reasons speaking against so late a separation of the Old and the New World.

We do not know the reason why eels go on transatlantic or coastwise journeys to spawn. We know that it is a fact, but the "why" of it is even more mysterious than the problem of Pterophryne's husbands. But I think that all this will console those who dreamed of an "isle of lost vessel" in the midst of the Sargasso Sea and who were disappointed to hear that the Sargasso Sea of fable does not exist. There is a much bigger mystery hidden there, but not in the sea itself but on the bottom, far below the reason where Columbus made the entry *vieron muchas yerbas.*

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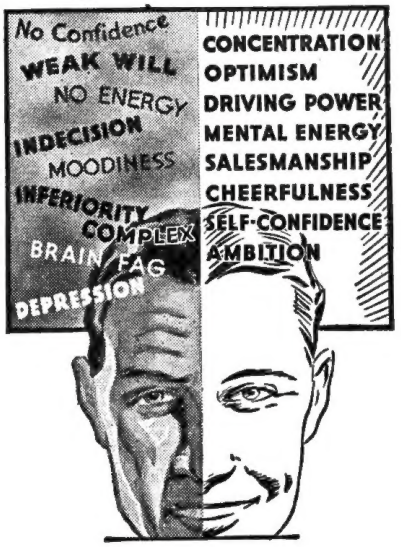

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